MARKETING STUDY OF MARKETS

FOR

FIJIAN HARDWOOD SPECIES

IN NEW ZEALAND

A thesis

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Executive Summary

This study investigates the potential for distributing Fijian hardwood species in New Zealand markets and how stakeholders would benefit from a marketing network providing a win-win situation. Fiji, a small nation with limited natural forest resources, needs to manufacture value-added wood products for export. This should result in increased financial return, creating employment opportunities, reducing the number and amount of native tree species being extracted and better natural forest management. Secondary data were collected about the Fiji Forest Industry (including timber exporters) and the New Zealand Forest Industry (including importers) to try to identify the five major Fijian hardwood species (Kauvula, Kaudamu, Dakua makadre, Dakua salusalu and Damanu) used in New Zealand. In conjunction with interviews, primary data from survey questionnaires and a literature review, the following findings were obtained analysed and discussed.

(i) Fiji Forest Industry

The present level of harvest from native forest is around 100 000 m^3 per annum. If continued at that level, only 30 years of native forest logging remain. There are 45 native species being extracted at the present time without a proper marketing program in place for any of them individually. This puts a lot of pressure on native fauna and flora and has increased the chances of soil erosion, especially in a tropical country like Fiji, which receives heavy rainfall. Identifying the right markets and producing the right product when needed is important for the Fiji forest industry today and for the future. Fiji needs to make a serious effort to reduce the number of native tree species from being extracted to sustain native forest ecosystems and for general environmental benefit. Sawmillers are

being encouraged to increase the intake of exotic species like pine and mahogany. Ten major native species are well received in the export market, but more added value products from manufacturing finished products are needed. This would surely provide a large financial boost to the economy of Fiji. Sixty percent of the annual volume of native species extracted is from Vanua Levu, the second largest island. This arises because the only two plywood mills in the country are located on Vanua Levu. These two mills compete for the same species, namely Kauvula, Kaudamu, Dakua makadre, Dakua salusalu and Damanu, and produce the same products, namely veneer, plywood, blockboard and timber. Despite the presence of 23 other sawmills, these two plywood mills are also producing almost three quarters of the annual sawn outturn production. During the past five years Fiji has exported about 86 000 m^3 a year, made up of the following product proportions: plywood (39%), sawn timber (32%), veneer (26%), blockboard (2%) and mouldings (0.4%). Increased demand for plywood and veneer from the two plywood mills has resulted in increased levels of harvest for native species and created more waste in timber yards. The Fiji wood products industry needs to do more re-manufacturing of mouldings and blockboard, as there are substantial market demands for these products. Mouldings are fetching the highest prices (averaging NZD2, 000 to15,000 per m^3) particularly in the New Zealand market. Fiji exported only 1 000 m^3 of moulding in the past five years with the average value of FJD 600 per m^3. This clearly indicates the need for the Fiji Government to increase the volume of mouldings exported in the international markets especially New Zealand resulting in more job opportunities for the country. Also, producing high value products from prime species in Fiji will eventually reduce the environmental impact and increase the return to all stakeholders.

(ii) Integration of Marketing Logistic Functions

The nature of marketing is changing as competition among suppliers of tropical hardwoods into New Zealand is increasing. Companies have been forced to change their management techniques to capture and retain market share, while at the same time delivering the right product at the right time to the place and at right price for customers' satisfaction through tighter logistics and supply chain management. Fiji hardwood suppliers are having a big problem trying to fulfil customer demand. In part, this encourages New Zealand importers to source tropical hardwood products from other countries. Providing a customer focus and reduced cycle time through partnership/alliance, sharing of information and creating value in an integrated way, should result in a competitive advantage for Fijian hardwoods in New Zealand markets. Forming a multi-national strategic alliance between suppliers and importers should be an advantage to small suppliers of these Fijian hardwoods in particular. Establishing a main distributing centre strategy in New Zealand is probably one of the best alternatives. The centre should be based in Auckland and market Fijian hardwood species throughout New Zealand, but at the same time there should be an office in Christchurch for markets in the South Island. The next step would be to have a full marketing study in Fiji looking at the industry and then working towards implementation of the market research findings on a wider-scale.

(iii) Certification and Country Image

Forest certification (FSC) of Fiji timber products is perhaps another way forward for Fiji, since its native forest resource is diminishing at present and should be managed on sustainable basis. Identifying niche markets that earn as high a financial return as

possible is of paramount importance. Certification may open up better niche market opportunities for these hardwoods as customers do not apparently worry about paying a high price as long as the product is certified. Certification might also provide a positive country image for Fiji in other product areas, if its forests are known to be being managed sustainably. New Zealand is an environmentally conscious country and certified products should boost the sale of Fijian products in New Zealand. Most New Zealand wood importers are willing to buy certified products for their public image and customer requirements. The numbers of customers buying only certified tropical hardwoods are growing, and these are the customers Fiji should target.

(iv) New Zealand Target Markets

There are exciting prospects in high value markets for Fijian hardwoods in New Zealand. Fiji should target markets interested in certified products (FSC) focusing on substitutes for high-value New Zealand rimu products, such as Dakua salusalu and Kaudamu used in mouldings, joinery, furniture, flooring and manufacturing. The Fiji firms are small but they can produce high-value products to serve the high end of the market. The Do-It-Yourself (DIY) market is also another option for distributing Fijian hardwoods. To meet the challenges, Fiji needs to foster an innovative industry that continues to work in cooperation with, and is supported by a more highly skilled workforce, that has improved manufacturing technology and quality controls, and effective market development programmes. Fijian hardwood products should be aiming at the high end of the DIY market where customers are willing pay higher prices for desired products. Fiji hardwood products should be focused, on a market niche strategy based on concentrating on a narrow buyer segment and out-competing rivals by offering niche members customized

attributes that meet their tastes and requirements versus rival products. Five species are well received on the New Zealand market, but Dakua salusalu is in greatest demand because it is a substitute species for rimu. Apart from Kauvula which is dominant in picture frames the other four species could produce more than 13 different high-value wood products made out of Fijian hardwoods that are wanted on the New Zealand market. Fiji's suppliers should realize that New Zealand is a high quality market and that they should produce quality products for customers who are willing to pay high prices.

(v) Position strategy

Fijian hardwoods are stable, easy to work with and have beautiful colours (both sapwood and heartwood) that are similar to rimu, kauri, maple, red cedar and whitewood. There are 27 countries supplying tropical hardwoods into New Zealand. Fiji, therefore, should be actively marketing their products there, using "push and pull strategies" with strategic partners to make them competitive in the market. Customers should be told these products are the best substitutes for products made up of New Zealand's native species and that they are readily available in any major timber-distributing centre, such as PlaceMakers, around the country. The species, if properly manufactured and applied, produce long-lasting, beautiful, natural wood colours that suit the taste of New Zealand customers and which are derived from forests under sustainable management.

(vi) Marketing mix strategies(product, place, price & promotion)

Moulding products are producing the highest financial return to manufacturers and distributors, followed by flooring, furniture and picture frames. About 36 different moulding designs produced from Dakua salusalu and Dakua makadre indicate the sale potential of these species in New Zealand markets now that New Zealand's supply of

native timber is rapidly dwindling. Auckland is the best distributing centre, because of its location and population growth. Transporting the products to other cities and regions can be easily achieved by a combination of road, rail, sea and air. It is important that the centre cooperates closely with the Fiji supplier and has ample stock on hand to be able to supply any product at all times when needed by the customers. Major regions on which to concentrate marketing activities are Tauranga, Nelson and Tasman, where the population growth is greater. Because these Fijian hardwood species are substitutes for New Zealand native species, the pricing should be close to that of rimu or slightly less to be competitive. The present average price charged by Fiji's suppliers is NZD950/m^3 (green sawn) and NZD1, 500/m^3 (kiln dried rough sawn). When processed and sold to distributors, the average wholesale price for finished products is NZD4, 000/m^3, which rises to NZD 8,000/m^3 (retail price) when sold to final customers. The mark-up price is around 600 percent. This value chain example demonstrates the potential for selling Fijian products when they are well presented in the marketplace. It also indicates that some of the margin appreciation might be shared with the producers and forest owners if properly organized distribution was developed. All the species already have popular New Zealand brand names, like Pacific Sap Rimu (Dakua salusalu), Pacific maple (Kaudamu), Pacific Kauri (Dakua makadre), Pacific Calophyllum (Damanu), Pacific Whitewood Species (Kauvula). These Fijian hardwood species also have significant market opportunities in other neighbouring countries like Australia, where Fiji should also be actively marketing its wood products. Having identified the niche at the top-end of the market), the Fiji industry should be setting up a better marketing network and strategic alliances to create a better economic future for the industry and the country as a whole.

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Glossary

FSC	Forest Stewardship Certification.
FHCL	Fiji Hardwood Corporation Limited is the state-owned company that entirely managed all state-owned mahogany plantations in Fiji.
FTIB	Fiji Islands Trade and Investment Bureau is a statutory body to promote, stimulate and facilitate economic development.
GDP	Gross Domestic Product.
ITTO	International Timber Trade Organization.
LRD	Land Resource Department
NLTB	Native Land Trust Board was established in 1940 to administer native land for the benefit of the indigenous landowners.
SPC/GTZ	Pacific German Regional Forestry Project
VAT	Value-Added Tax.

Chapter 1: Introduction

The research presented in this thesis provides background information on Fiji's potential to meet market demands for hardwood products grown and manufactured in Fiji. This first chapter outlines the problems to be addressed, the research objectives and possible limitations in implementing the findings.

1.1 Background

Timber trading in Fiji started in the 1820's when the first European traders were attracted to sandalwood. The timber industry today is still playing a vital role in the country's economy with the availability of exotic species like pine and mahogany to supplement indigenous species plantation, but not sandalwood any more. The timber industry has the potential to create a healthier economic and forest environment in the future. The forest industry in Fiji is like that in any other developing country in the world, in that the Fijian people have utilized natural resources of their country to manufacture products with limited processing capability in order to increase their standard of living. Often such development promotes a production emphasis, where the conversion of resources (including timber resources) to primary products is the major objective and focus of business. This categorization also includes exotic species like Caribbean pine, where valuable sawlogs which could produce value-added products, are instead used to produce less valuable wood chips, selling at half the price of other products.

In today's global trading Fijian species have introduced wood products on to the world market and have been able to meet niche demands, and compete successfully with other

countries' hardwood species. Increased demand for Fijian hardwood, however in international markets for veneer, plywood and sawn timber has raised great concern over the long-term supply of these native species for future generations. For example, over the past five years the total volume of Kaudamu exported was 10 085 m^3 in both timber and veneer form, with an average volume of 17 000 m^3 removed from the forest annually and about 65 000 m^3 during the past five years.[1] The question landowners have asked of the Fiji Government is whether or not it is doing the right thing in exporting such valuable species in timber or veneer form. Is there a better way to sell these products in the international market with a higher financial return that could benefit both the supplier and buyer, and also provide a greater contribution to government revenue? The forest products industry has been an important sector of the nation's economy for the past 30 years, contributing about 1 per cent of GDP and 3.4 per cent of the total earnings in 2001[2]. Being a small nation, an annual extraction volume of about 100 000 m^3 annually presents the industry with a challenge to maintain supplies at that level through establishing a sustainable forest management model. The need to identify the best forest management and utilization practice, in perpetuity is vital for a small nation like Fiji and its stakeholders.

1.2 Research Problem

Fiji, a small nation with forest cover of about 940 000 hectares 90 percent of which is natural forest could modify its marketing strategy for its hardwood products through niche marketing and networking with better utilization of species and improved financial return to the country. This could be achieved by identifying the right target audience and

[1] Management Division Colo-i-Suva, Fiji. Annual Report
[2] Fiji Islands Bureau of Statistics, Key Statistics 2001.

offering them the right products worth paying for, through multinational strategic alliance and supply chain management techniques that would result in improved customer services both locally and internationally. The total annual clearing of about 10 000 hectares of native forest, yielding on average 140 000 m^3 of wood products with foreign exchange of USD62 million in 1998[3], (USD440/m^3) indicates the urgent need for better management and utilization of these forest resources. The removal rate relative to the size of the nation and its resources is unlikely to be sustainable. The country should seriously identify down stream value-added products and export through a network that demonstrably increases foreign exchange earnings from a lesser usage of raw materials. Increased pressure from the environmental movement may well decrease global consumption of certain native species. The halting of rimu harvests from State-owned forests on the West Coast of New Zealand is a consequence of new government perceptions and their forest policies.[4] This should not only reduce native species consumption but force timber merchants to utilize their resources more fully to meet the demands of their customers locally and abroad. These external and internal pressures have resulted in:

(i) increased harvests of Fijian native species which have contributed to more deforestation;

(ii) under-utilization of tropical hardwood species and lower than expected financial returns;

[3] Tropical Forest Update Magazine, 2000/2, pp. 9
[4] Labour Party Policy stopped the Rimu logging in the West Coast, 2000.

(iii) adverse impacts suffered by stakeholders in Fiji including the government, timber merchants and landowners through higher taxes, lower financial returns and deforestation;

(iv) environmental pressure forcing some traditional timber merchants out of business due to lack of supply;

(v) the timber industry not contributing more to the nation's economy and not implementing their full potential to do so.

The availability of mahogany from supplementary line-planting into native forests may well provide competition to the hardwood markets locally and internationally. This could drive the price of native hardwood products down as the supply increases. To reduce this effect, the country needs marketing techniques that offer opportunities to compete in both local and export markets. Fiji should seriously address how to market these valuable species in the global market. This should be done by its own people who know the species' capabilities better than anyone else from long-term utilisation knowledge.

Study Focus

The Fijian Native Hardwood Species plays a vital role in the Timber Industry which is generating economic growth for the country. Since the resource is limited, it is important to develop added value products in Fiji before exporting to the outside world. Opportunities for securing market sales of Fiji's solidwood products in New Zealand are outlined, discussed and evaluated here.

1.3 Aims and Objectives

The emphasis of this study is on identifying possible opportunities for selling Fijian Hardwood Species in the New Zealand market and recommending a suitable marketing distribution strategy that benefits both the supplier and the importer.

Objective 1

Identification of opportunities to supply added-value wood products to New Zealand markets and suggestions on how Fiji could take advantage of such opportunities.

A core marketing strategy developed for New Zealand markets is formulated here from the analysis of value-added products presently made from Fijian Hardwoods Species, the pricing and networking between supplier and importer. Furthermore, by identifying niche markets for these species, better opportunities for creating high value products before leaving Fiji can be suggested.

Objective 2

Identification of present customers in New Zealand and surveying them to ascertain how networking with Fiji timber merchants can be established and maintained so as to build new export opportunities.

By identifying the present marketing networks and the means of communication that exist, a better understanding of the business environment operating between suppliers and timber merchants in the two countries can be achieved.

Objective 3

Identification of improved timber utilization standards in Fiji that need to be provided for the marketplace and marketing programmes.

Identifying the right markets for Fijian Hardwood Species should help to improve the utilization of these products resulting in increased revenue, building on multi-national strategic analyses and supply chain techniques.

Objective 4

Evaluation of the market potential for forest and forest product certification.

Identifying the importance of certified products and their importance to Fiji's perceived image should provide a vital marketing tool for improving the marketability of products in the international market. Product-Country Image is important in today's business environment.

Objective 5

Evaluation of the present native forest cover and identification of the major species extracted from the forest for potential export markets with a view to reducing the number of species extracted.

Identifying the natural forest cover and the annual rate of extraction per species should assist in determining better utilization of major species that would result in reducing the number of species extracted and at the same time reduce adverse environmental impact.

1.4 Contribution of the Research

This research can contribute much to the Fiji Government's understanding of needed insights into marketing hardwood species in New Zealand markets so as to provide better returns for the forest owners as well as timber manufacturers in Fiji. If value-added products are made in Fiji the government can create job opportunities, while New Zealand importers will also benefit from lower production costs that developing nations

can provide. The research should also benefit Fiji timber exporters in providing them with better trading knowledge about international strategic partners in countries like New Zealand, through the development of a marketing plan framework in which all stakeholders benefit.

1.5 Limitation

The research covers the marketing of only five major Fijian Hardwood Species exported to the New Zealand markets and excludes other exported species which could also be studied in more detail. The financial constraint on the research also reduces the country destinations to be studied. Inclusion of Australian markets would depend on that country's preferences for Fijian Hardwood Species. Lack of information and data analysis by the Fiji Ministry of Forestry about marketing Fijian Hardwood Species creates difficulties which include individual destinations for individual species or products especially in plywood and blockboard where mixed species are used. This deficiency needs to be remedied.

1.6 Outline of the study

The paper is divided into another six chapters together with appendices.

Chapter 2. The forestry sector and business environment in Fiji.

Chapter 3. The forest sector in New Zealand and its business environment.

Chapter 4. Research methodology and data collection.

Chapter 5. Analysis of data collected and findings.

Chapter 6. Nature of proposed marketing and networking plan.

Chapter 7. Summary of findings and conclusions.

Chapter 2: The Fiji Forestry Sector and Business Environment

2.1 Introduction

The purpose of this chapter is to provide an overview of the Fiji government and its forest sector. The analysis which includes forest management and marketing of native trees is based only on data from the past five years as there are no available earlier records. The research is restricted with limited information provided by the Ministry of Forestry of Fiji especially in the marketing of their indigenous species. This in-depth research, therefore, analyses the removal and marketing of individual species to try to justify or overturn the importance and contribution of just five major species, knowing that continuation of this strategy might not allow the indigenous forest resource to be managed sustainably.

2.2 Analysis and Results

2.2.1 Fiji Government

Fiji's unique geography provides many opportunities and challenges for the country to do business with its two neighbouring countries, New Zealand and Australia. Approximately 3100 km northeast of Sydney and 2100 km north of Auckland, the nation has daily air-travel and almost monthly shipment between the two countries[5]. There are over 320 islands covering about 18 270 km^2 and the largest island is Viti Levu (10 429 km^2), the most developed and populated island where Suva the capital of Fiji is located. The

[5] FTIB., An Investor's Guide to Fiji, 2002. pages 1-3

economy of Vanua Levu (5 556 km^2), the second largest island, is based mainly on sugar, forestry, copra, fishing and tourism. The country can be divided broadly into drier and wetter zones that enjoy a sub-tropical climate without great extremes of heat or cold and with normal average temperatures of 25-30 degrees Celsius. The country gained independence in October 10th, 1970 after 96 years of being a British Crown Colony and sovereign democratic state. Today, after the 1987 military coup the country is a Republican State with a President as the head of the country.

2.2.2 Land Ownership

Fijians own about 83 per cent of the land area, all of which is administered by the Native Land Trust Board on behalf of the landowners. Of the rest of the land, 10 per cent is freehold and 7 per cent is Crown land. The NLTB,[6] a government agency, administers native land and carries out payment of royalties to landowners, retaining 25 per cent of the lease money to cover administration, and a further 10 per cent is paid directly to the regional heredity chief.

2.2.3 Population

In 1996, the population of Fiji was 775 077. Fifty one per cent were Fijians, 43.6 per cent Indians, and the rest made up of Rotumans, Chinese, Part-European and other Pacific Islanders[7]. Nearly 78 per cent of the current population is estimated to be below 40 years of age; about 54 per cent of the population lives in rural areas and about a quarter lives in Suva, the capital of Fiji. English has been the official language in use but Fijian and Hindi are the main dialects for daily communication. The literacy rate is about 80 per

[6] Native Land Trust Board
[7] Fiji Islands Bureau of Statistics, 1996

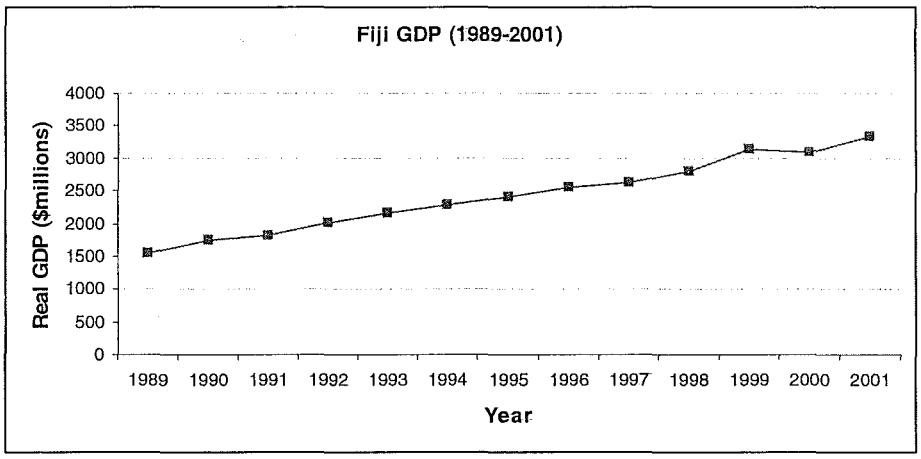
cent with average life expectancy at birth of 72 years. Thus, Fiji has a standard of living of a lower-middle income of a developing country.

2.2.4 Economy

Fiji's economy (as measured by GDP) has grown for 10 consecutive years, with a slight decline in 2000. The major segments of the Fiji economy include garments, sugar, tourism, agriculture and forestry. Exports play a major role in Fiji's economy. As a percentage of GDP, at the end of 2001, total exports were FJD 1.07 billion and imports totalled FJD 1.8 billion[8]. The Gross Domestic Product (GDP) per capita at the end of 2001 was FJD2, 569. Local customers' buying power is therefore very low compared to international standards of developed countries. Increasing foreign exchange brought into the country through increased export products is vitally important for the country's future economic growth. During 2001, the garment industry topped export earnings with a 31 per cent share, followed by other products, sugar and then forestry, 2.5 per cent, making forestry the fifth largest export earner. The real GDP growth showed a decline by 2.8 per cent in 2000 and then increased by 8.2 per cent by the end of 2001, Figure 2.1. The decline was caused mainly by political unrest, but things started to pick up again at the end of 2001. The country's major trading partners include Australia, New Zealand, small countries in the South Pacific Region, South East Asia and the United States of America.

[8] Fiji Islands Bureau of Statistics, 2001

Figure 2.1: Fiji GDP for the 11 years



Source: Fiji Islands Bureau of Statistics, 2001

2.2.5 Labour Market

Fiji's labour force is considered to be the most skilled in the Pacific region with about 40 per cent registered in the total labour force of 280 500 in 1996[9]. The labour force is well educated in that 77 per cent of the population went through primary and secondary education and about 4 per cent have tertiary qualification. Both skilled and unskilled labour is readily available, but there is high demand particularly for information technology, banking and finance, marketing and top management personnel. The average wage in the sawmilling and logging industry is between FJD 1.85 to 2.50 on average across the board for hourly paid employees in all sectors.

[9] FTIB. Fiji Product Directory 1999-2000.

2.2.6 Investment

In 1996, investment contributed about 11 per cent of GDP. The FTIB's role is to promote Fiji's products globally and provide incentive packages to attract investors into Fiji as shown in Appendix 26. New incentive packages include:[10]

- low tax rates;
- income taxed only once;
- low duty rate on production inputs, construction and capital materials;
- accelerated depreciation allowance;
- investment allowances;
- loss carry forward;
- duty free inputs for exports;
- export income tax deductible.

2.2.7 Financial Institution

There are five major trading banks in Fiji and a few other non-banking financial institutions providing financial assistance to consumers. Fiji has a well developed banking system supervised by the Reserve Bank of Fiji. Investors or trading partners can be re-assured that financial transactions to and from Fiji are secure. The Reserve Bank introduced an Export Finance Facility (Pre/Post Shipment Finance), where exporters could obtain credit at concessional rates of interest to help improve international competitiveness and also to ensure the availability of credit to the export sector.

[10] FTIB. An investor's Guide to Fiji, page 5.

2.2.8 Taxation

Income tax comprising normal tax and withholding tax on individuals and companies are the major revenue source for the government. Other taxes include; provisional tax on contract for services, land sales tax, value-added tax, departure tax, stamp duty, indirectly taxes-fiscal duties, excise tax and gambling turnover tax.[11] Resident companies are subject to tax at 35 per cent while non-resident companies pay 45 per cent when operating through a branch bank. Other relevant taxes include 10 per cent VAT levied on goods and services but the levy is zero-rate for exports. The withholding taxes of 15 per cent for non-resident dividends are payable where dividends are declared, paid or credited by a company incorporated in Fiji to a non-resident shareholder of a non-treaty country excluding Australia, Japan, Korea, Malaysia, New Zealand and the United Kingdom. Two tax treaty countries with Fiji have 15- 20 per cent withholding tax.

2.2.9 Transportation and Communication

Fiji has both international shipping and air services; its main commercial centres are linked by road, air and sea. Nadi International Airport is mainly used by international airlines operating on Trans-Pacific air routes. Air Pacific, the national airline, operates flights between Nadi, New Zealand, Australia, Japan, the Republic of Korea and the west coast of America. Domestic flights also operate within the country between Nadi, Suva and Labasa. Suva is the main port handling both local and international cargo ships and tourists; other international ports include Lautoka, Levuka and Savusavu. Fiji is the hub of the South Pacific telecommunication network and regional business activity.

[11] FTIB, An investor's guide to Fiji, page 11.

2.3 Fiji Forest Resources

Fiji is distinguished by three major landforms: flatlands, hilly lands and steepland, with a range of forest including lowland rain forest, cloud forest, broadleaved dry forest, mangrove and coastal forest. The Talasiga ("sunburnt") vegetation covers about a third of both Viti Levu and Vanua Levu. This describes once-forested dry lowland now degraded by fire and grazing into a mosaic of pyrophytic grasslands and savannahs.[12] The Department of Forestry under the Ministry of Fisheries and Forests has the primary role of enforcing legislated forest policies and regulations. The department operates in three major divisions, two in the mainland (Viti Levu), the Central and Western Divisions and one in Vanua Levu, the Northern Division. It also plays a significant role in the management of natural forests, particularly in order to support management decision-making by assembling a database for the natural forest resources including maps, inventories, and GIS. It is estimated that around 150 000 hectares of natural forest have been harvested and selection logging operates on a 20-year cutting cycle and about 40 per cent of native forest is left, as shown in Table 2.1. This is a total of 331 000 hectares of native forest leased for logging operations and 240 000 hectares of protected native forest. The leftover native forest available for logging must have clear and proper forest management plans aimed at providing healthier forest ecosystems, while generating at the same time revenues for sustainable forest management.

[12] Mueller-Dombois, D. and F.R. Fosberg (1998). Vegetation of the tropical Pacific islands. Springer-Verlag, New York. Page 733.

Table 2.1: Fiji National Forest Covers for the past 5 years

Fiji National Forest Cover (000ha)					
Forest	**1990**	**1991**	**1992**	**2000**	**2001**
State Land	5.6	5.24	5.24	5.24	5.17
Reserve	0.96	0.96	0.94	0.94	0.94
State Lease	0.84	0.84	0.84	0.84	0.84
Native Land	187.84	186.33	178.52	151.79	146.44
Freehold	13.96	13.78	13.54	13.08	13
State Land	5.03	5.03	5.18	5.18	5.18
Reserve	6.08	6.08	6.08	6.08	6.08
Hardwood Plantation	35.39	36.65	40.8	51.49	51.49
Fiji Plantation	43.63	45.88	37.56	40.89	43.2
Private Lease	13.77	13.85	13.99	7.7	7.7
Protection Forest	249.73	248.94	247.06	242.32	241.71
Indigenous Logged Forest	**319.38**	**319.37**	**310.45**	**325.74**	**331.24**
Total Forest	**882.21**	**882.95**	**860.2**	**851.29**	**852.99**
Total Indigenous Forest	803.19	800.42	781.84	758.91	758.3
percentage/total forest	36%	36%	36%	38%	39%

Source: Ministry of Forestry. Management Division, Colo-i-Suva.

The government is committed to a Sustainable Forest Management System with various programs being implemented for certification. The government has worked closely with the Federal Republic of Germany in developing and improving sustainable indigenous forest management in Fiji. This role has now been taken over by the Pacific German Regional Forestry Project (PGRFP)[13]. PGRFP is undertaking a Sustainable Forest Management Project on 6 000 hectares in Vanua Levu called the Drawa Block. In 1990, the Government introduced a logging code called the Fiji National Logging Code of Practice (under the Natural Forest Management Project) with the aim of protecting the forest environment by allowing harvesting within acceptable standards for economic reasons. The question we have to ask is how serious or committed is the government in trying to improve its achievement of sustainable forest management. Research needs to

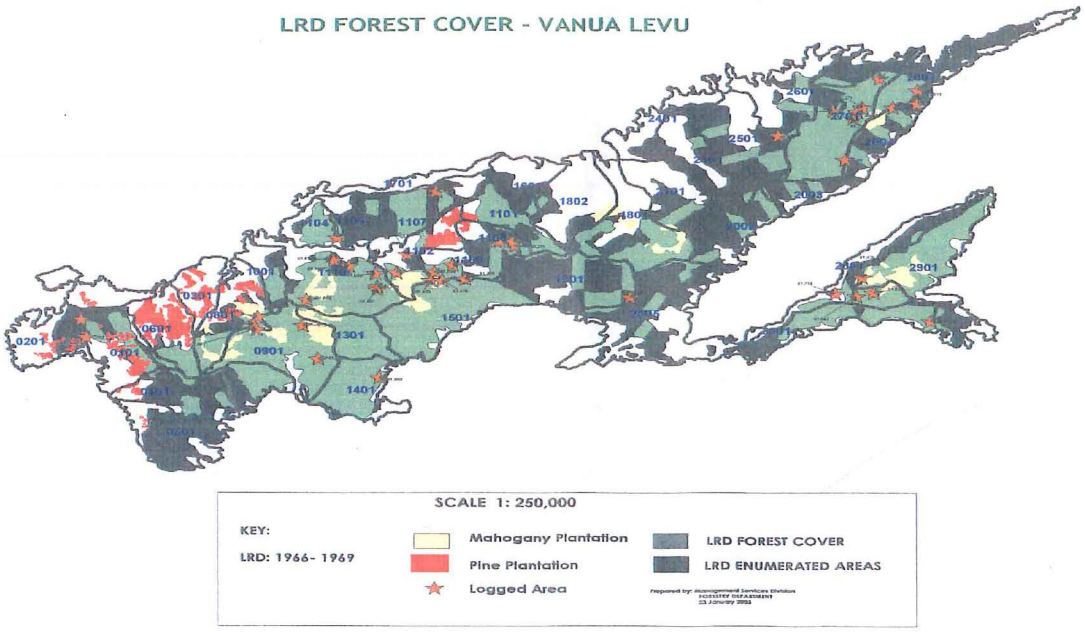
[13] SPC/GTZ Pacific German Regional Forestry Project. The Way Beyond Year 2000.

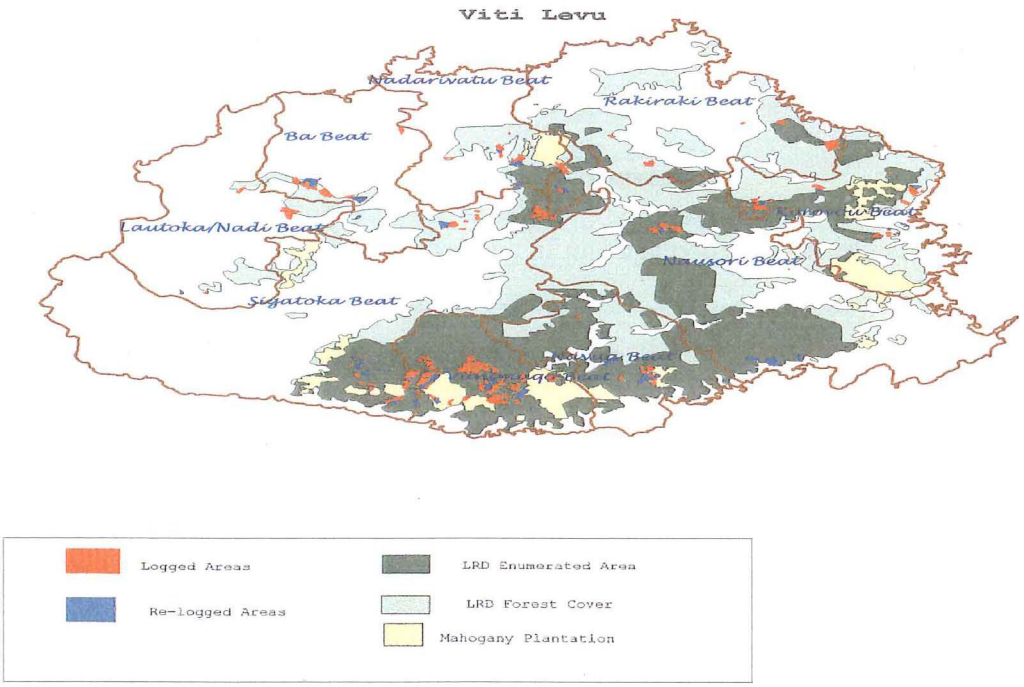
be conducted to evaluate the government's commitment to such forest management. For example, to improve log recovery rates, circular saws were banned in 1997 and replaced with bench saws in order to strengthen incentives for good management. The annual diameter growth increment for these native species is less than 1 cm,[14] which presents a challenge to securing sustainable forest management.

Apart from the native species, Fiji has two main exotic plantations: (i) Fiji Pine (*Pinus caribaea)* which is managed by Fiji Pine Limited and (ii) Fiji Mahogany *(Swietenia macrophylla)* managed by the Fiji Hardwood Corporation which was established in 1998. The pine plantation covers about 44 000 hectares located mostly in the drier side of the two main islands whereas mahogany is located on the wetter side, covering about 80 per cent of the 86 608 hectares of hardwood plantation in total (Figure 2.2). Fiji Pine supplies about 350 000 tonnes of pine logs to their subsidiary Tropik Wood Industries Limited for processing into sawn timber and wood chips. Mahogany is a high value species that has now matured and is ready for harvesting. Fiji Hardwood Corporation has undertaken trial processing of mahogany into sawn timber, veneer and plywood with Fiji Forest Industries and also with Sustainable Forest Industries Limited. Both companies will be processing a volume of 30 000 m^3[15] of mahogany per annum, which will be exported mainly to the United States of America. Product and market development is vitally needed for both these exotic species, especially mahogany, in order to be competitive in the marketplace.

[14] Information given by the Principal Research Officer, Colo-i-Suva. Fiji.
[15] Fiji Hardwood Corporation Limited, Wood Supply Agreement 2002.

Figure 2.2: Map showing the Forest Cover for the 2 main islands in Fiji





Source: Mapping Division, Management Division, Colo-i-Suva

2.3.1 Forestry Policy and Strategy 2002-2004

The forestry policy and strategy, 2002—2004[16] sets out the following aims.

- To maximize the sector contribution to the economy and develop the sector to its fullest potential through the encouragement of value-adding and the provision of necessary infrastructure.
- To promote environmental conservation and management as the basis for the sustainable development of the sector through the enforcement of the National Code of Logging Practice, Certification and branding of forest products.
- To promote the forest resources in ways that benefit the accruing to resource owners and the community at large.
- To develop and maximize the mahogany resource into a major downstream processing industry benefiting the Fiji economy.
- FHCL to continue with its reforestation programs.
- Marketing and competitive pricing of mahogany relative to international market prices which are to be ascertained before harvesting.
- Landowners' share in the harvesting of mahogany to be properly assessed.

2.3.2 How the Government Views the Problem

Traditional sales philosophies have been adopted by the government in years, wherein the timber industry is encouraged to work on a volume basis to generate quick revenue to the nation. It may be difficult to change this approach until new research is conducted to prove that globalization is dismantling barriers that traditionally separated local firms

[16] http://www.fiji.gov.fj/core/home.htm

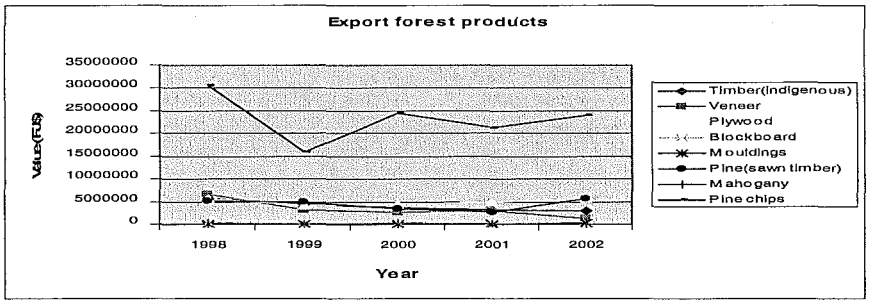
from international markets for which the industry could take advantage. The government lacks a viable strategic marketing approach to market these products globally through niche marketing. It has realized the need for value-added products for these hardwood species and allows landowners to be more involved in the timber industry by:

1. establishing a Forestry School for added value products;
2. joint venture with existing companies like Fiji Forest Industries Limited to help in marketing these species;
3. establishing a Landowner's Trust as a working partner allowing landowners to participate more in the industries.

2.3.4 Fiji Forest Products Industries

There has been tremendous growth in the Fiji forest product industry for the past decade due to the pine industry and mahogany (see Figure 2.3). Fijian native species contributed a lot to the growth due to their recognition in the international market in the form of lumber, veneer and plywood. In the past five years, 22 indigenous species entered the export market, with 25 sawmills and 35 exporters operating in the country mainly sawmillers.

Figure 2.3: Main export forest products

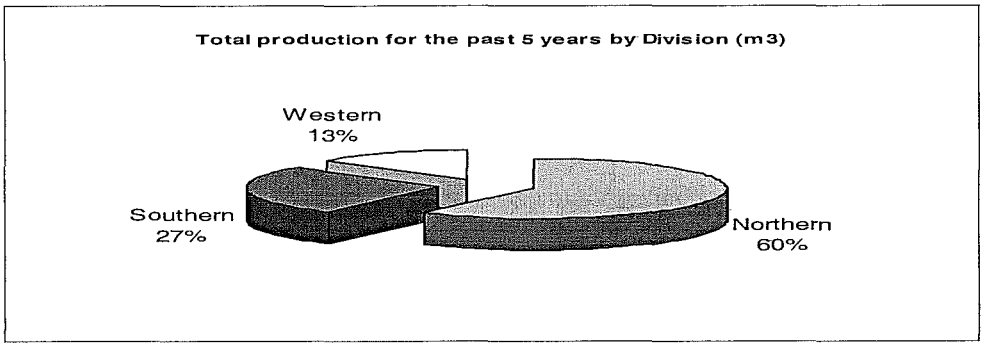


Source: Utilization Division, Nasinu. Ministry of Fisheries and Forestry. Annual report

In 1987, Tropik Wood Industries Limited a subsidiary of Fiji Pine located in Lautoka (the second largest city in Viti Levu), was established to process pine into sawn timber that is exported mainly to Australia together with wood chips to Japan. In 2000, pine export earnings totalled 60 million dollars (FJD) an amount predicted to increase to 90 million dollars in 2006 (Fiji Product Directory 1999-2000). Trial processing of mahogany is currently being conducted to determine the quality and value of Fiji's mahogany products in both local and international markets in the form of sawn lumber and veneer. There are two veneer mills operating in Fiji both of which are located in Vanua Levu (Northern Division) the second largest island. They produce both Fijian hardwood veneer and plywood. Sixty per cent of the annual wood supply comes from Northern Division, a reflection of demand of the two veneer and plywood mills, followed by Southern Division and Western Division Figure 2.4. Appendix 1 (a), (b), (c), shows the detailed volume and percentage of species extracted from each division. Ten major species were extracted from the Northern division during 1998 to 2001, namely Kaudamu (21%), Damanu (12%), Dakua makadre (9%), Yasiyasi (8%), Kauvula (6%), Kaunicina (5%),

Waciwaci/Anita (5%), Vesi (Kwila) (5%), Dakua salusalu (3%), Yaka (3%) and Bauvudi (3%).

Figure 2.4: Divisional Production of Native Species Extracted in percentage for the past 5 years



Source: Utilization Division, Nasinu. Ministry of Forestry

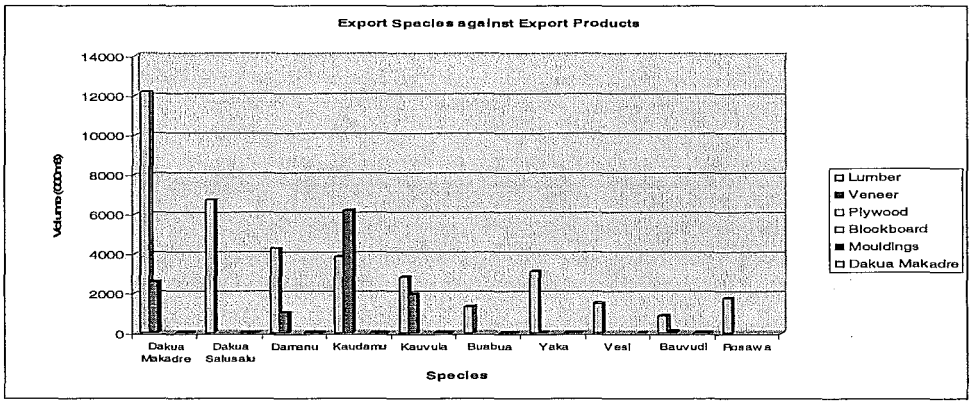
2.3.5 Indigenous Export Species

Since the volumes of traded individual Fijian native species have changed substantially, the range of species supplied to the export market has remained relatively constant in the past five years, increasing from 83 000 m^3 (1998) to 114 000 m^3 (2002). There is limited supply of these species, however, the demand for them is directly influenced by overseas end-users and destinations. The introduction of the Logging Code of Practice[17] not only reduced the volume of prime species such as Dakua Makadre, Dakua Salusalu, Kaudamu, and Kauvula extracted from one hectare but also increased the number of unknown species entering both the local and export markets. For the sawmill operation to be economically viable they have to extract other species called Mixed Light Hardwoods, (see Appendix 2). Another reason for extracting other mixed light hardwood species is the demand from the landowners for their royalties which fell when the code was introduced, as previously sawmillers were extracting only prime species. But now, as

[17] Fiji Logging Code, 1989. Ministry of Forestry

more and more unknown species are being removed from the forest and sold at a lower price, the environmental impacts are unknown. Apart from the plywood and blockboard industries, which use mixed species of softwoods and medium light hardwoods, other export products use individual species directly as shown in Figure 2.5. Species like Dakua makadre, Kaudamu, Kauvula and Damanu are needed in the production of almost all export products with high demand for their lumber and veneer, which again results in higher extraction rates. As discussed earlier, these are the four main species removed from the native forest for export lumber, veneer, plywood, blockboard and mouldings.

Figure 2.5: Export Species vs Export Products



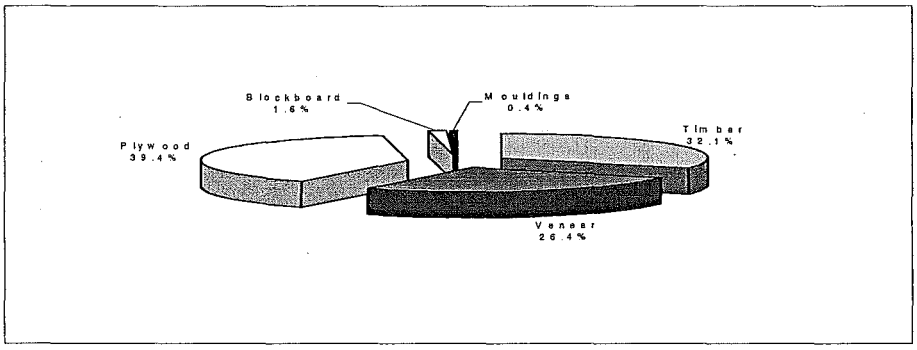
Source: Management Division, Colo-I-Suva. Ministry of Forestry, Fiji.

Sustainable management is vital in the extraction of these species. International organizations like the Forest Stewardship Council provide better guidelines and procedures which the Fiji government could utilize to have its sustainable forest management program and forest products certified.

2.3.6 Export Products

The main export products using indigenous species are lumber, plywood and veneer with blockboard and mouldings contributing a very small percentage as shown in Figure 2.6. Plywood dominates the export products, followed by sawn timber, then veneer, creating higher demand for native species, especially the four main species in the production of plywood and veneer. Rapid financial turnover allows them to dominate export products manufactured from native species. For example, it took FFI four days to manufacture Kaudamu veneer suitable for export markets compared to 1-2 months for exported Kaudamu lumber.[18]

Figure 2.6: Total Percentage of Export Products in the past 5 years

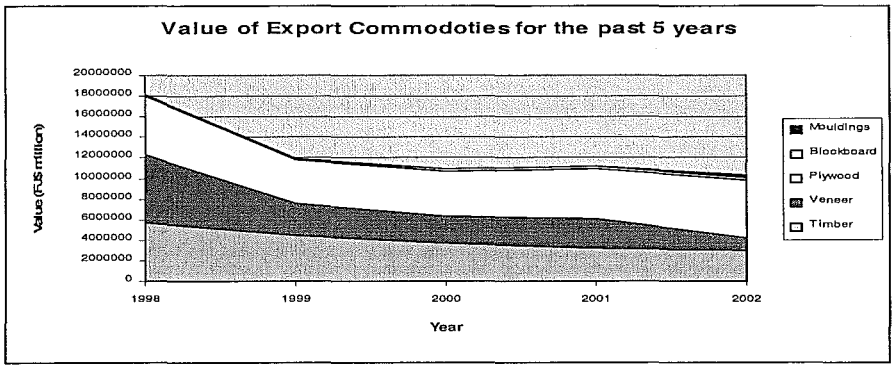


Source: Utilization Division, Nasinu. Ministry of Forestry

The value of export products indicates that plywood and sawn timber still dominate whereas veneer exports tended to decline during the period of 2001 to 2002 Figure 2.7. With the high demand for plywood and sawn timber, the pressure on native species to produce these products, especially plywood, is inevitable.

[18] From personal experience during the writer's attachment with the company as an Assistant. Manufacturing Manager.

Figure 2.7: Export Value (FJ$000) for the past 5 years



2.3.6.1 Lumber

Lumber exports have remained constant in the past five years, with Dakua Makadre, Dakua Salusalu, Damanu, Kaudamu and Kauvula being the main export species. There are thirteen other species now entering the export market in small amounts apart from other known species: e.g. Yaka *(Pacific Heart Rimu)*, Vesi *(Kwila)* and Bauvudi (Pencil Cedar) Appendix 3(a). Most of these species are exported as rough sawn kiln dried with a volume about 40 000 m^3, valued around 37 million dollars at an average of 897 FJ$ per m^3. In the five year period 1998-2002, an average of 21 sawmillers and 16 timber merchants or traders engaged in exporting lumber. Fiji Forest Industries, Waiqele Sawmill, Southern Forest and Dayals sawmills were the major lumber exporters averaging about 6 000 m^3 per company [see Appendix 3(b)]. The principal importing countries of Fijian lumber are New Zealand (43%), Tuvalu (8%), Tahiti (6%) and Australia (6%), apart from 18 other countries [see Appendix 3(c)].

2.3.6.2 Veneer

There has been a reduction in the export of hardwood veneer in 2002 compared to previous years. Veneer exports act as a *cash cow*[19] for the two plywood mills; Fiji Forest Industries and Valebasoga Tropik Board with a volume of 15 000 m^3, contributed 16.5 million dollars, an average of FJ$1,000 per m^3 of foreign revenue to the country in the five year period [see Appendix 4(a)]. Today, there are 15 species used in veneer production with Kaudamu, Dakua Makadre, Kauvula and Damanu the main export species Appendix 4(b). Yaka veneer in small quantity fetches FJ$4,800 per m^3 compared to the rest of the species with an average of FJ$1,000 per m^3. The inclusion of other species as export veneer puts a lot of pressure on native forest ecosystems, especially in tropical countries which experience very heavy rainfall that results in intensive soil erosion. For example, the Labasa town experienced flooding with three to four feet of sediment deposits in the town during Cyclone Amy in 2003. This was ascribed to heavy logging operations at high elevations in the Labasa region, due to the pressure in operating the two plywood mills in Labasa. The market-share for the past 5 years was the United States with 57 per cent, 19 per cent to Australia, 14 per cent to New Zealand and 9 per cent to Japan and the rest to New Caledonia and Thailand [see Appendix 4(c)].

2.3.6.3 Plywood

There has been a relatively constant export of hardwood plywood in the five year period amounting to almost 22 000 m^3 valued at 26 million dollars (for the five years), averaging 1195 FJ$ per m^3 [see Appendix 5(a)]. Since the product uses mixed species the overlay is always the five main species of Dakua Makadre, Kaudamu, Kauvula and Damanu. Figure

[19] Boston Consulting Group Matrix (BCG) where the Market Growth is low and the Market Share is high, which identify the type of Strategic Business Plan to be carried out.

2.8 shows the plywood products produced in the five year period by the two plywood mills, Fiji Forest Industries and Valebasoga Tropik Board. The three main importers of plywood in the past five years have been Australia (36%), New Zealand (21%) and Tahiti (9%) with 11 other countries having bought very little [Appendix 5(b)]. Interior, exterior and marine plywood are commonly produced and exported, relative to structural, chip board, form seal and form work, which are produced in only small amounts by both companies.

Figure 2.8: Plywood products for the 5 year period

	Total
Interior	8490.6
Exterior	9035.2
Marine	2871.0
Structural	968.0
Chip Board	25.9
Form Seal	598.0
Form Work	5.8

Source: Utilization Division Nasinu, Ministry of Forestry, Fiji.

2.3.6.4 Blockboard

Blockboard is produced in very small amounts mainly by Fiji Forest Industries and Valebasoga Tropik Board. Export blockboard amounted to 970 m^3 and 1 million dollars of foreign exchange in the five year period [Appendix 6(a)]. This is potentially however, a very important product because it could use utilize short length timber from veneer logs and also increase recovery. They could produce high value products if overlaid with prime species like Yaka (Pacific Heart Rimu), Fijian Kauri or Kaudamu. The principal importers of blockboard in the five year period were Tonga (43 %), Tahiti (33%) and New Zealand (11%) with eight other countries buying only small amounts of mouldings [Appendix 6(b)].

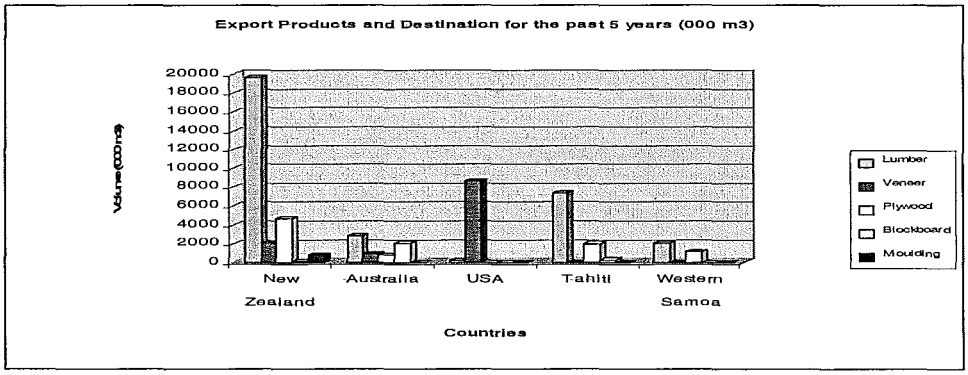
2.3.6.5 Mouldings

There has been less emphasis on exporting moulding products from Fiji in the past five years, amounting to only 600 m^3 and contributing FJ$580,000 of foreign exchange. Damanu and Kauvula are the dominant species used for moulding products compared to the other 12 species available [Appendix 7(a)]. Quarter-Rounds and Draw-Sides are the dominant products being exported but are mostly produced by merchants when sawmillers themselves. South Seas Timber Merchant is the main exporter of moulding materials in the five year period amounting to 144 m^3. New Zealand is the main importer of moulding accounting for 75 per cent; with eight other countries buying very small amounts [see Appendix 7(b)].

2.3.7 Export Markets

Fiji hardwood products have been exported to almost 23 countries around the world [see Appendix 8]. The five major countries are New Zealand (49%), Australia (12%), United States of America (16%), Tahiti (17%) and Western Samoa (6%), Figure 2.9.

Figure 2.9: Five major Destination of Fijian Hardwood Products



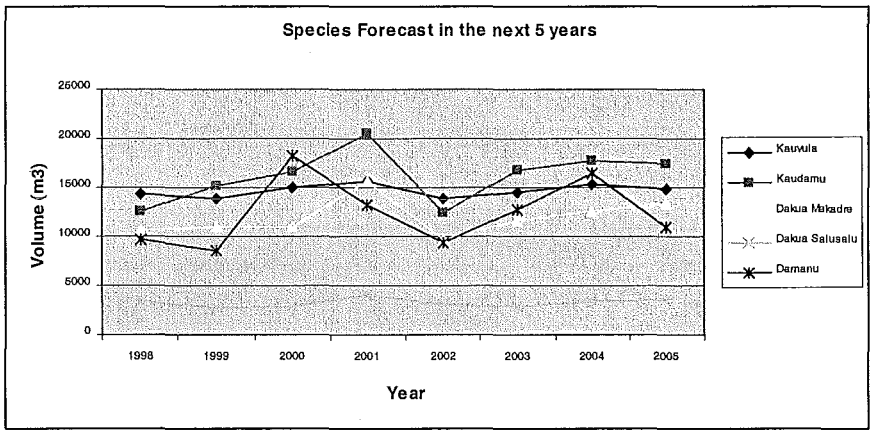
New Zealand is the major importer of sawn timber amounting to about 18 000 m^3 for the 5 year period. It has also imported some plywood but very little blockboard, veneer and

mouldings during the last five years. Australia is potentially a large market for Fiji hardwoods, but currently takes only small amounts of each of the Fijian hardwood products. The USA is one of the world's largest hardwood markets where Fiji's five products could find lucrative destinations, but takes only veneer. Such huge demand for veneer is causing a lot of pressure on species like Kaudamu, Kauvula, Daukau Makadre, and Damanu as discussed earlier and shown in Figure 2.5. The potential for placing Fijian Hardwood Species in world markets can be realized only if the species are well represented by the agents in each country.

2.3.8 Species Availability

As discussed earlier, the remaining area of native logged forest left is 331 000 hectares [section 2.3]. With a removal rate of 10 000 hectares per annum, the native forest will have only 30 years before being exhausted. To forecast the species available in the next five years a trend technique was used as shown in Figure 2.10.

Figure 2.10: Species forecast in the next 5 years



The figure indicated that species mix readily available in the next five years remain relatively constant, apart from Damanu which is good news for exporters and New Zealand merchants. It is also important that these species should bring maximum return

to the country under sustainable forest management. This could be achieved through value-adding processes, which will be discussed in chapter 6. Since these species are contributing much to the economy of the country, they deserve better natural forest regeneration management and should not be replaced with exotic species like mahogany. The species have demonstrated their importance in the marketplace and the government should seriously undertake natural regeneration or replanting programmes to avoid their extinction. Also, there needs to be a sustainable supply of the species to meet future demands.

2.3.9 Characteristics of five major Species

Timber properties have been well researched and documented by A.S. Alston in his Forest Products Laboratory Report, Timbers of Fiji[20] and are summarised in this concluding section of Chapter 2.

2.3.9.1 Dakua Makadre (Fijian Kauri)

Family: Araucariaceae **Scientific Name:** *Agathis vitiensis*

Dakua makadre is the most dominant and valuable species in Fiji for the production of sawn timber and veneer. The species grows mainly in the highlands of the two main islands and is easily accepted on the export market.

General Description: The heartwood is pale cream to golden brown in colour, with lustre; sapwood is straw to pale brown [Appendix 9(a)]. The texture is fine and the grain mainly straight with medium shrinkage and the air dried density is 540 kg/m^3. It is a moderately

[20] A.S. Alston. 1982. Timbers of Fiji . pages 98-103, 108-109, 112-113

fissile timber comparable with Douglas fir in hardness and strength group S5 (green), SD5 (seasoned).

Durability: Heartwood is not durable, but cannot be attacked by *Lytus,* although drywood termite infestation may be encountered. The timber can be kiln dried from green to 12% moisture content but needs sheltered positions or covers during air-drying to minimize surface checking.

Working Properties: Dakua Makadre is easy to saw and machine with excellent turning properties, planed surfaces are very smooth with only slight chipping in the regions of reverse grain. The timber produces high quality veneer and a wide variety of solid manufactured items such as bowls, novelties, handles, pictures-frames, etc. It is also suitable for decorative and utilitarian purposes such as panelling and bench tops, furniture, boat building and plywood.

2.3.9.2 Dakua Salusalu (Pacific Sap Rimu)

Family: Podocarpaceae **Scientific Name**: *Decussocarpus vitiensis*

Dakua Salusalu resembles Dakua Makadre in sheen and fine texture, although it is darker in colour. The colour ranges from pale brown to golden orange-brown, some logs having contrasting bands of yellow and brown [see Appendix 9(b)].

General Description: Dakua Salusalu timber has fine texture, an air-dried density of 440 kg/m^3 and low shrinkage. Nail holding capacity is relatively low.

Durability: Dakua Salusalu is softwood and the heartwood is not durable, being rated adequate only for hazard 1 end-uses, but it cannot be attacked by *Lyctus*. Seasoning is not a problem, although stack weighting is recommended to offset a slight tendency to twist.

Stack cover during drying is needed to avoid fine checking. Seasoned boards are generally excellent.

Working Properties: The timber has fine texture and low density which enables it to be sawn, planed and turned easily. Dakua Salusalu is suitable for interior finishing, mouldings, window frames and sashes, windows sills, external and internal doors, furniture, cabinets, panelling and other decorative end uses, weatherboards, fascia boards and boat cabins.

2.3.9.3 Damanu (Pacific Calopyllum)

Family: Clusiaceae **Scientific Name:** *Calophyllum vitiense*

Damanu is similar to Queensland maple and Malaysian bintangor (*Calophyllum spp.),* species already well established on export markets.

General Description: Damanu has light reddish-brown heartwood, with a sapwood band about 50 mm wide and a straw to pale orange-brown in colour. Texture is intermediate to coarse and the grain is generally interlocked [Appendix 9©].

Durability: The sapwood is susceptible to Lyctus attack with the heartwood not durable and rated as only hazard 1 end-use. Seasoning is always a problem and care is required for both kiln and air-drying. Quarter sawn is recommended in preference to backsawn, as the latter way could result in checking, collapse and twisting if too severe initial drying conditions are used. Weighting of stacks and closer than normal stripper spacing are recommended.

Working Properties: The timber can be easily sawn and planed with smooth surfaces except for some stringiness at the bottom of sawcuts and slight chipping on quarter-sawn

faces. The timber saws fairly well in air dry condition, but sometimes showing fibrous surfaces. Planed surfaces show some chipping on quartersawn faces in the regions of reverse grain. Turning properties are quite good and drilled holes are smooth with only slight roughness at the breakthrough. The timber is suitable for producing veneer, panelling and furniture. Other uses include boat building (frames), vehicle body building, turnery, handles and, in the lower grades, cases.

2.3.9.4 Kaudamu (Pacific Maple)

Family: Myristicaceae **Scientific Name**: *Myristica chartacea*

General Description: Kaudamu is a versatile species growing mostly in all parts of the country's forest cover. The heartwood is pink to light brown in colour. Sapwood is cream to pale brown, darkening on exposure [see Appendix 9(d)]. Texture is intermediate and uniform, and grain usually straight. Air dry density averages 580 kg/m^3 and the shrinkage is high.

Durability: The species is susceptible to ambrosia beetle attack and staining, necessitating prompt processing and appropriate dipping. Sapwood is susceptible to *Lyctus* attack. Kaudamu is perishable, necessitating preservative treatment for all permanent end uses.

Working Properties: Kaudamu is easy to saw and plane in both green and seasoned conditions, generally working well and producing smooth, clean-cut surfaces and crisp edges. Kaudamu should not be subjected to severe initial drying conditions and care is required to avoid checking as it is prone to slight collapse. A short reconditioning treatment is recommended after kiln drying. The species is suitable for joinery, interior

panelling, mouldings, furniture, covered flooring, turnery, light tool handles, light construction, veneer and plywood.

2.3.9.5 Kauvula (Pacific Whitewood)

Family: Euphorbiaceae **Scientific Name:** *Endospermum macrophyllum*

General Description: The heartwood and sapwood are not differentiated, being straw to pale cream in colour [Appendix 9(e)]. Texture is intermediate, generally straight grained and fissile, although slightly interlocked grain can occur. Air dry density is 480 kg/m^3 and shrinkage is low.

Durability: Logs and fresh sawn kauvula are prone to ambrosia beetle and blue-stain attack, necessitating rapid conversion and appropriate dipping with low natural preservative. It is perishable in any decay hazard situation and is susceptible to *Lyctus* attack. Treated with preservative, most end uses could be met.

Working Properties: Kauvula saws and machines easily in both green and dry conditions. Machined surfaces are generally very good, although slight chipping may occur on surfaces machined against the grain. Air dried material is easy to bore and turn and can be easily sanded to an excellent finish. The timber is excellent for fine mouldings, interior finishing, kitchen cabinets and furniture, joinery, stained panelling, etc. Ease of turning favours its use for items such as furniture legs, brush handles and similar items, and it is suitable for weatherboard, veneer and plywood.

Chapter 3: The New Zealand Market for Import Hardwoods

This chapter provides an overview of the New Zealand Government and its forest sector. Understanding both the internal and external environment of an importing country provides a better understanding of whether importing the product could succeed or fail.

3.1 Background

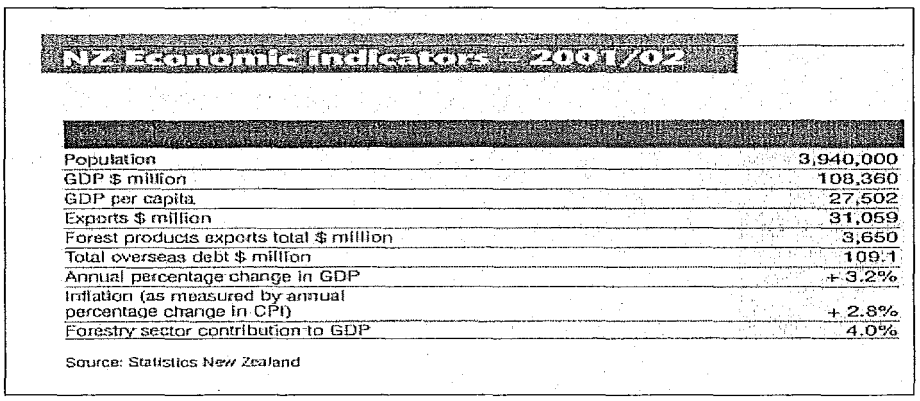
New Zealand lies in the mid-latitude zone of westerly winds, in the path of an irregular succession of anticyclones, which migrate eastwards every six to seven days.[21] Located 6 500 km south of Hawaii and 1 900 km to the east of Australia, its land mass is 268 000 km^2 plus a number of small outlying islands. There are two main islands, called the North and South Islands. The mean temperature is about 15°C at sea level but drops to about 2°C at higher altitudes, with extremes of temperature up to 42°C in the Canterbury region and -22°C in Central Otago. Relative humidity ranges between 65 and 85 percent, which can drop down to 5 percent at times in the lee of the Southern Alps, with cool southwesterlies which are very dry at times. The mean annual rainfall ranges from 300 mm in parts of Central Otago to 8000 mm in the Southern Alps with average sunshine hours of about 2350 hours per year. New Zealand is a sovereign state with a democratic parliamentary government based on the Westminster system, a high degree of social and political stability and a modern social welfare system.

[21] http://www.metservice.co.nz

3.2 Economic Situation

New Zealand's economy operates on free market principles and is strongly trade-oriented, trading comprising 33 percent of total output of goods and services. During the 1990's, New Zealand enjoyed continual economic growth reaching five percent to seven percent in 1993/94. Depreciation of the New Zealand dollar, along with stronger trading partner growth also helped to provide an initial impetus, as investment confidence also boosts growth. This resulted in rapid employment growth and reduced unemployment from a peak of 10.9 percent in 1991 to 6 percent in 1996. During 1997, the economy started to slow down with average growth of 2.5 to 3 percent due to the Asian crisis, but recovered in 1999 and 2000. The economic indicator shows that a GDP per capita of NZ$27,502 provides a good indication of the consumers buying power compared to NZ$22,923 in 1995, [Figure 3.1]. Stronger buying power indicated that customers are willing to spend their money freely on what they want to purchase to meet their needs and wants, which is a positive sign for Fiji products marketed in New Zealand, especially Fiji hardwood products.

Figure 3.1: New Zealand Economic Indicator



Population	3,940,000
GDP $ million	108,360
GDP per capita	27,502
Exports $ million	31,059
Forest products exports total $ million	3,650
Total overseas debt $ million	109.1
Annual percentage change in GDP	+ 3.2%
Inflation (as measured by annual percentage change in CPI)	+ 2.8%
Forestry sector contribution to GDP	4.0%

Source: Statistics New Zealand

Source: Facts and Figures 2002/2003. New Zealand Forest Industry

Agriculture and manufacturing industries have contributed much to the success of the economy through niche marketing. Dairy and meat exports continue to grow together with continued increasing importance of forestry and manufacturing exports, while wool has declined. Doing business in New Zealand is straightforward, and efficient, in a market-oriented economy, a stable and secure business environment and no obvious corruption. The New Zealand economy will continue to grow and remain a safe environment for doing business. New Zealand is a member of APEC, and committed to achieve APEC's goals of free trade and investment by 2010 for developed economies and 2020 for developing countries, including Fiji. New Zealand remains strong in export of commodity-based products and as a main source of export receipts. It relies on imports of raw materials and capital equipment for its industry, thus making New Zealand strongly trade-oriented.[22] The country's major trading partners are based around the Pacific Rim. The three largest export markets are Australia, Japan and the United States, which account for 46 percent of exports and 49 percent of imports. In 2001, food and beverages represented more than half of New Zealand's total merchandise exports which amounted to NZ$16,200 million. This was followed by manufactured product[23] exports totalling NZ$6,844 million, primary products[24] NZ$4,535 million, industry materials and metals[25] NZ$2,527 million, and service[26] exports NZ$1,100 million.

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[22] http://www.treasury.govt.nz/nzefo/2002. External Sector

[23] Manufactured products include: organic chemicals, pharmaceutical products, plastic products, rubber products, leather, textiles, paper and paper-associated products, furniture, electrical equipment, marine equipment, agricultural and industrial machinery.

[24] Primary products include: plants/flowers, grass and other seeds, wool, raw hides and skins, wood/pulp.

[25] Industry materials and metals include: mineral fuels, oils, aluminum, iron/steel, other metals and all other raw material.

[26] Service products include: tourism, consultancy and education.

3.3 Labour Markets

Labour market participation is a key contributor to well-being for people and society providing wealth, indicators of rewards, and status. In New Zealand around 70 percent of people between the ages of 15 and 65 are in paid employment for at least one hour in any given week. As a small trading nation, New Zealand must be in a position to respond rapidly to changes in the nature of demand for products and services, and to drive change herself through, innovation, and adopt new technology. It has a highly educated and multi-skilled workforce. The New Zealand labour market has been deregulated in recent years with the introduction of the 1991 Employment Contract Act and today replaced by the Employment Relation Act 2000, making it even more deregulated. The present Act promotes collective bargaining and recognizes the role of the unions, individuals, and employers to deal with each other in good faith. Unions are allowed access to the workplaces to recruit, and are given the right to strike in pursuit of multi-employer contracts, but union membership remains voluntary. There has been an increase of 2.8 percent in the number of people employed to 1 839 300 for the year ended March 2002. The labour force participation rate increased by 0.8 percent reaching 66.3 percent and the number of unemployed people decreased by 6.0 percent to 102 600 and the working age population increased by 1.0 percent to 2 929 700 during the same year[27].

[27] http://www.statis.govt.nz. Labour market indicators 1999-2002

3.4 Financial Institutions

The Reserve Bank of New Zealand, a state-owned Central bank, has the following functions:[28]

- operating monetary policy to maintain price stability;
- promoting the maintenance of a sound and efficient financial system;
- meeting the currency needs of the public.

The Reserve Bank's responsibility is to register and supervise banks for the purpose of:

- promoting the maintenance of a sound and efficient financial system;
- avoiding significant damage to the financial system that could result from the failure of a registered bank.

New Zealand has an open door policy on bank registration and many of the big international banks are represented in New Zealand. Deregulation has resulted in two financial institutions, registered banks and other financial institutions. This allows competition amongst institutions resulting in better service and lower fees for consumers to choose from, especially in respect to charging of fees for overseas transactions. The present major banks are ANZ Banking Group, ASB Bank, Bank of New Zealand (BNZ), Bank-Direct, National Bank of New Zealand and Westpac Trust. The floating currency used in New Zealand is the New Zealand dollar, which has ranged between 0.40 and 0.60 against the US dollar in the past few years.

[28] http://www.statis.govt.nz. Financial Institutions (2002)

3.5 Taxation

New Zealand's taxation structure and system lie within standard, set at international level boundaries. Special taxation incentives on investment have been introduced. The Inland Revenue Department collects and administers taxes and duties. New Zealand offers a low cost tax system which includes:[29]

- 12.5 percent tax for goods and services (GST) levied on all transactions except export and financial sectors which is recoverable by business;
- no social security and payroll tax;
- a flat rate of 33 per cent of corporate or company tax;
- personal income tax includes 19.3c for every dollar on income up to $38,000 per annum, 33c for income $38,001 to $60,000, and 39c for income over $60,000.

3.6 Transportation

The New Zealand transportation system is a major component contributing to the success of economic activities both nationally and internationally. Roading networks of around 93 000 km and railways of 4 200 km, link sea ports and airports in an efficient internal transportation system critical for the country's economic growth. In 1985, the Government encouraged bilateral air services negotiation with partners towards mutual liberalization, thereby increasing the opportunity for competition in existing and potential markets. Apart from the USA, New Zealand is regarded as one of the most liberal countries with more open skies agreements than any other country in the world. Auckland, Wellington and Christchurch are the major international airports which

[29] http://www.stats.govt.nz/taxation/2002

serviced around 1 910 000 visitors in December 2001[30]. New Zealand's railway system connects all major population centres and includes three inter-island rail ferries all of which are now operating as Trans Rail, an overseas company sold in 1993. To reduce traffic congestion in Auckland, the government has just bought the Auckland urban railway corridor to support regional traffic initiatives. Shipping provides around 90 percent of New Zealand's total international trade to about 30 foreign countries. Shipping costs reduced by almost one half during reform regulation in 1988 have allowed exporters to negotiate lower freight rates. In 1995, foreign vessels were allowed to compete in New Zealand's coastal trade which benefits the economy through reducing transport cost and increasing the choice of coastal transport services.

3.7 Communication

New Zealand provides high-tech communication networks both nationally and internationally. Recently companies like Telecom New Zealand, TelstraClear, Walker Wireless, Ihug and others, have been competing in the telecommunication markets[31]. The latest figures have revealed that there are now 16 national and international call service providers. New Zealand's use of the internet is rated as high, as a result of a lower access price on the internet providing cheaper business communication. Almost everyone in New Zealand can get access to telephone, fax machines and the Internet. The European ethnic group has the highest percentage (98.1 percent) of households having telephones and the Pacific Peoples ethnic group (87.0 percent) has the lowest. Both European and Asian ethnic groups have a high percentage of household access to the internet.

[30] www.stats.govt.nz/tourism/2001
[31] http://www.treasury.govt.nz/nzefo/2002. External Sector

3.8 Forestry Sector

New Zealand is a country isolated from major world markets and innovation. Commitment to increased productivity and competitiveness is vital for survival and growth. The New Zealand Forest Service was dis-established in1987 and its resources re-allocated to three agencies; the New Zealand Forestry Corporation (a State-owned enterprise), the Department of Conservation and the Ministry of Forestry. The industry is playing a vital role in the country's economy accounting for 4 percent of GDP, and is the third largest export sector. Most small towns in the early stage started as lumber camps and before human colonization 80 percent of the land area was forest. Today, 52 percent is in agriculture, 23.5 percent in indigenous forest and 6.5 percent in plantations of the introduced tree species. The country is developing into a major forestry nation which resulted from the pine plantation boom in the early 1920s to mid 1930s, and the second boom in the early 1960s and 1970s, recognizing that *Pinus radiata* is highly suitable for the New Zealand climate. The extensive industrial plantations were developed by the government to conserve rapidly depleting natural forests by providing a new source of timber. There was a realization of native forest destruction and *secondly* the potential of *Pinus radiata* in meeting both the local and export markets. The involvement of international companies opens up new markets, and provides distribution linkages and export customers throughout the Asia Pacific region. It also provides new capital, technology and management expertise within the Forest industry, which is greatly needed for New Zealand to be competitive in the international market. More investment in downstream processing and aggressive marketing is vitally important for the industry to prosper in future. There are significant areas of forest established in the 1970s which

have now reached maturity and are ready for harvesting in the next 10 years. New Zealand forest covers about 30 per cent of New Zealand's land area approximately 8.2 million hectares. On 1st April 2002, the total plantation forestry amounted to 1.81 million hectares and 6.4 million hectares of indigenous forest. It is forecasted by 2010, the wood supply will be almost double the current harvest volume.[32] The future of New Zealand forestry is still debatable since the dis-establishment of the Forest Service in 1987 (Whyte & Poole, 2001).[33] There is still no secure unified legislation and its interpretation in New Zealand through rational debate about the global aspirations expressed since the UNCED Rio Declaration in 1992 on international forest policy developments (A. G. Whyte 2003).[34] According to Whyte, the forest policy and managerial inconsistencies arise mainly as a consequence of New Zealand having separated forests into two main kinds, "commercial" and "non-commercial". The report indicated the result of consequences of ill-advised political interference in the practice of sustainable forestry management, tacit acceptance of a legislative nightmare by forest industry bodies, and the inability or unwillingness of ministerial advisers to persuade governing politicians to make critical strategic changes to forest policy in New Zealand.

3.8.1 Plantation Forest

Pinus radiata dominates the plantation forest resource at 89 percent by area, followed by Douglas-fir 6 percent and the rest comprising other softwoods and hardwoods. Table 3.1 indicates the species distribution in hectares. The introduction of other species of Douglas fir and other softwoods and hardwoods, should lower the risk of having one dominant

[32] New Zealand Forest Industry Facts and Figures, 2002/2003.
[33] 16th Commonwealth Forestry Conference in Fremantle (2001).
[34] Joint Australia & New Zealand Institute of Forestry, Queenstown, New Zealand. 2003. pages 81-91

species in case of outside pest attack (John Purey-Cust, 2003)[35]. Since these other species contribute a small percentage of the total species contribution, there are both interests and concerns in having one dominant species in the market.

Table 3.1: Species distribution as at April 2002

Species	Area (hectares) (thousands)	Percentage of total area
Radiata pine	1 622 000	89.4
Douglas-fir	104 000	5.7
Other softwoods	34 000	1.9
All hardwoods	54 000	3.0
Total estimated area	**1 814 000**	**100**

Source:National Exotic Forest Description, 2002

Table 3.2 shows the age distribution where 60 percent of the planted forest is aged 15 years and less. This indicates the availability of raw materials in the next 10 to 15 years and the need for all stakeholders to work together. According to Jacobi (2003),[36] there are things the government must do; (wood processing strategy, energy pricing and supply, expand roading, improve Resource Management Act processes, building skills and training and improve market access), things other governments must do (market access: tariffs, non-tariff barriers and rules), things we (New Zealand Forest Industries Councils and other forestry bodies) must do ourselves (developing industry cohesion in innovation/R&D, market development, market share, finding funds, and finding the right structures), for the future of the industry.

[35] NZ Journal of Forestry, February 2003. pages 38-39.
[36] Stephen Jacobi. 2003. CE0. New Zealand Forest Industries Council. What preferred future for Forestry?. Presentation at the School of Forestry.

Table 3.2: Age Class Distribution as at April 2002

Age class (years)	Area (hectares)	Percentage of total area
1-5	379 000	20.9
6-10	490 000	27.0
11-15	210 000	11.6
16-20	296 000	16.3
21-25	250 000	13.8
26-30	140 000	7.7
31-35	25 000	1.4
36-40	12 000	.7
40+	12 000	.7
Total estimated area	**1 814 000**	**100**

Source: National Exotic Forest Description, 2002

Most of the plantations are located in the North Island. About 32 percent of the entire planted forest estate is in the Central North Island. Other significant forest areas are Northland, Nelson/Marlborough and Otago/Southland regions [see Appendix 10(a)]. New planting programmes have generally declined since 1994. That planting will be dominated by small growers generating income reinforces the merits of forestry as an investment. Sixty percent of the planted forest estate is owned by 14 major organizations, each owning more than 20 000 hectares. The majority of the plantation forest is owned by Carter Holt Harvey, Central North Island Forest Partnership (now in receivership), Fletcher Forest, Rayonier and Weyerhaeuser. Some of these companies have off-shore investment with the remaining forests owned by small companies, local government, partnership, joint ventures and thousands of small scale land owners. An estimated total of 20.1 million cubic metres of roundwood were harvested from the plantation forest in the year ending March 2002, creating employment opportunities. Product certification is growing among New Zealand's forest growers, demonstrating the importance of having certified products. The preferred certification standard generally used at the moment is the Forest Stewardship Council (FSC).

3.8.2 Export Markets

New Zealand's forest product exports are confined to a narrow, but slowly developing, product and market mix. The total value of forest products exported in the year ended April 2002 was NZ$3.6 billion (provisional) to about 40 countries. Australia is the major market importing about 27 percent, followed by Japan (20%), Korea (14%), United States (14%), China (10%), Taiwan (2%) and other South-East Asian Markets and India (14%). The major export commodities shown in Table 3.3 indicated that lumber and sawlogs are the major products valued at NZ$825 million and NZ$714 million respectively. Log exports still play a dominant role in the export mix but investment in value-adding products for future long term success is needed.

Table 3.3: Production and Exports of Selected Forestry Products

Production And Exports Of Selected Forestry Products

(Year ended 31 March 2002 -- provisional)

	Total production	Directly exported	Percentage exported	Export Value (NZ $'m f.o.b.)
Logs (000m³)	20,747	7,383	35.6	714,041
Lumber (000m³)	3,845	1,643	42.7	825,404
Fibreboard (m³)	841,263	631,373	75.1	291,449
Particleboard (m³)	198,223	95,784	48.3	62,247
Plywood (m³)	264,076	103,235	39.1	145,584
Chemical pulp (tonnes)	723,001	431,455	59.7	372,502
Mechanical pulp (tonnes)	800,313	351,420	43.9	140,245
Newsprint (tonnes)	334,048	214,703	64.3	311,167
Other paper & paperboard (tonnes)	511,502	295,104	57.7	313,492

Source: Facts and Figures 2002/2003. New Zealand Forest Industry

3.8.3 Forest Processing Industry[37]

The Government and Private Forestry Sector have been working together in partnership for the past decade to improve the forest industry by implementing changes in the processing capacity. Introduction of new technology and upgrading of facilities have

[37] http://www.maf.govt.nz/forestry/publications/2002. page 7

driven the industry to be become competitive in the global market, together with cost-reductions. In processing, the larger and more capital-intensive parts of the industry, such as panel products, medium density fibreboard (MDF) and laminated veneer lumber (LVL), continue to invest in the latest available technologies. Sawmilling companies are making substantial investments in upgrading and replacing mill equipment, to improve production capacity and improving export market conditions. The industry is moving away from commodity products like saw-log exports to more value-added products to ensure long-term success. It is estimated that secondary processing, remanufacturing and furniture production are providing employment to approximately 10 000 employees. The major processing areas are in the Central North Island where the bulk of large processing mills are located [see Appendix 10(b)].

3.8.4 Indigenous Forest and Private Lands

New Zealand's indigenous forest covers about 6.4 million hectares, of which 77 per cent is owned by the Crown and managed by the Department of Conservation. Around 1.3 million hectares are owned privately including Maori owned titles. About 31 percent of the indigenous forest comprises three major forest types; pure beech, podocarp-beech and podocarp-hardwood. Better forest management is needed because regenerations need to survive and removing mother trees can promote a healthier forest ecosystem. For example, the use of helicopter logging on the West-Coast inflicts low damage to the forest compared to possum damage. The Indigenous Forest Provisions (Part IIIA of the 1949 Forest Act) came into force on 1st July 1993. It promotes sustainable forest management of privately owned indigenous forest but not State indigenous forest. The

Act lays down standards for management planning in all non-state indigenous forest that must be followed. They include:

- accurate description of the forest, expected harvest volumes and proposed operational details;
- level of harvesting is not to exceed the growth rate of the forest;
- the harvesting system will not compromise the forest's natural values;
- plans and permits must be registered against the land title and have an annual logging plan must be approved prior to any harvesting taking place;
- milling indigenous timber needs to be registered with the Ministry of Agriculture and Forestry;
- export of logs or rough sawn timber of other indigenous species is prohibited and the only exports of native species must have added value into finished wood commodities ;
- plans and permits must be approved by the Director-General of the Ministry of Agriculture and Forestry.

3.8.4.1 Hardwood Consumption

There has been more limited consumption of domestic hardwood in New Zealand since the introduction of legislation in 1993 for sustainable forest management. Indigenous forest logging under management of Timberlands West Coast ceased completely on 31st March 2002. This has created uncertainty for both hardwood manufacturers and consumers resulting in the indefinite closure of some hardwood sawmills. Production in 1997, was 110 000 m^3 which dropped down to 50 000 m^3 in 2001 and is currently around 13 000 m^3 in 2003. Importing of furniture increased by 21.5 percent during 2002, valued

at NZ$129 million compared with NZ$106 million in 2001. Malaysia has been the major country for imported furniture, valued at NZ$28 million.[38] Hardwood sawn timber imports were valued at NZ$22 million at the end of 2001. Australia is the main country from which New Zealand imports its hardwood, followed by Fiji contributing 13 percent of the total hardwood consumption, [Appendix 11]. Table 3.4 indicates very little change in the volume of hardwood imported into the country over the past five years. Major imported hardwood species include Eucalyptus, Oak and tropical hardwoods.

Table 3.4: Hardwood Import into New Zealand

	1998	1999	2000	2001	2002	Total
Total Volume (000 m^3)	11000	12000	13000	14000	16000	66000
Value (NZ$) (000)	12447	15147	17138	20199	23509	88440
Fiji (Vol. m^3)				2708	2746	5454
Value (NZ$000)				2904	2947	5851
Percentage from Fiji				14%	13%	

Source: MAF: Statistics, 2002

About 27 countries supply hardwoods to New Zealand which clearly indicates the higher level of competition Fijian hardwoods are facing in the New Zealand market. This also indicates the demand for tropical hardwoods in a particular niche market for New Zealand customers who want to disassociate themselves from the abundant *Pinus radiata.* The next two chapters explore and identify the potential of tropical hardwood species in the market and compare the demand for these hardwoods.

[38] http://www.maf.govt.nz/statistics/primaryindustries/forestry/trsdr/import-highlights/sawntimber/2002.

Chapter 4: Methodology and Data

4.1 Introduction

This chapter outlines the methods of data collection used to meet the objectives of the research. The methodology includes secondary data compiled from (1) Ministry of Agriculture and Forestry Annual Reports (Import Tropical Hardwoods), (2) Statistics New Zealand, (3) New Zealand Independent Timber Merchants reports, (4) Ministry of Fisheries and Forestry Fiji. These sources are important because they provided documented evidence of the timber trading between the two countries, including current marketing practices and forest products trading. Problems are always encountered when collecting industrial data that are not straight-forward. According to Gilbert & Churchill[39], respondents' willingness to participate reliably in a questionnaire seems to be a function of the amount of work involved in producing an answer, the respondent's ability to articulate an answer, and a sensitivity issue. Most managers have little time to answer questionnaires, as they could use such time to do more important things for the company. They (managers) however, are the only personnel in the company authorized to participate in any form of survey for their company. Since the target audience is small and located throughout a country like New Zealand, more time and money is needed for the survey to be successful. The main purposes of the surveys reported here are to identify the present value-added products from the five major Fijian Hardwood Species that are presently imported into the New Zealand market, and develop a marketing

[39] Gilbert A. Churchill, Jr., (1990). Marketing Research Methodological Foundations, 5th edition. page 370

network where all stakeholders benefit. The reasons for applying a network approach as stated in the previous chapter are:

(1) lack of marketing competence in small developing countries like Fiji where native species are disappearing dramatically through lower value export products like rough sawn lumber;

(2) identifying possible added-value products and processing them to international finished product standards before shipment contributing to the economy of the country;

(3) creating alliances and distribution channels among the Fijian timbers exporters/suppliers, importers/manufacturers, retailers and final customers. This is a requirement;

(4) utilizing networks to short-circuit procurement of market information feedback, and knowledge to achieve customer satisfaction.

4.2 Methodology and data

In selecting an appropriate method of collecting primary data, due consideration was placed on the merits of the available alternatives so as to select the one(s) which will provide accurate and reliable data within the time frame and budget available.[40] Since, the target audience was limited and spread nationwide, appropriate communication methodology was important for producing the better response results needed for research to be successful. The two main methods used for data collection were personal interview and postal questionnaires. Based on secondary data searching, personal interviews were also conducted for importers/distributors and manufacturers of Fijian Hardwoods into the

[40] Angus J McPherson, 1992. Marketing Opportunities and Strategies for New Zealand Grown Radiata Pine in the UK., page 5.2.

New Zealand markets. A plan for the collection of primary data was then developed. This plan included the use of questionnaires during the visit to the site. Selected Fijian hardwood species importers were identified and asked if they would participate in the study. These merchants were asked to extend the interview to their Fijian Hardwood customers who are manufacturers or retailers [see Appendix 12]. It allowed the interviewer to quickly identify the added-value products and how the business operates between the importer/manufacturer and retailers. It also gave the interviewer a chance to introduce the questionnaire to be completed by retailers and returned through the postal envelope provided. Since mail questionnaires afford the researcher little control in securing the response from the intended respondent,[41] follow-up phone calls were needed to confirm that the questionnaire has been completed if not received by the interviewer in three-four weeks. A covering letter explaining the purpose of the research and the estimated time frame for completing the questionnaire was attached to the questionnaire. As discussed previously; proper planning on how to carry-out the survey is vitally important if target audiences are small and directed at a particular niche market. Pre-testing of questionnaires was conducted through sending 10 sample questions to selected merchants who are currently importing and manufacturing Fijian hardwoods species. These provide the interviewer with a better understanding of which questions are to be changed and which are to be used. The sample size was 20 New Zealand importing firms and manufacturers of Fijian hardwood species. A postage-paid return envelope was mailed to the general manager or marketing manager of each of the importing companies. The importers were identified from the exporters list by the Ministry of Forestry (Fiji).[42]

[41] Gilbert A. Churchill, Jr., Marketing Research Methodological Foundations. 5th Edition, pages 333-335
[42] Ministry of Forestry, (Fiji). 2002. Exporters List

These importers introduce their manufacturers or retailers who are dealing with Fijian hardwood species. The interviewer was present when most of the respondents completed the questionnaires.

4.3 Questionnaire Design

Questionnaire design is a critical component of this research in order to acquire useful information.[43] The questionnaire was divided into five major parts (1) business environment, (2) species and properties, (3) importers and manufacturers, (4) timber certification, and (5) distribution and information.

(a) *Questions 1-2. The length of time in the timber business.*

Respondents were asked how long they have been in the timber business and whether they have encountered or imported Fijian hardwood species. The data from these questions were used to provide background information on the knowledge of Fijian hardwood species by importers or merchants. Those that had been using these species and were familiar with the species, could be the best intermediaries in the New Zealand.

(b) *Question 3. The form in which the products are bought.*

Respondents were asked to specify the form in which the products were bought from Fiji. The data collected were used qualitatively to determine the type of products that are in high demand in New Zealand. Also, the form determined the likely demand for each species and gave some indication on environmental pressures on native species.

[43] Lorelle F., Meredith L., (2000). Questionnaire Design and Administration, pages 2-4.

© *Question 4. The Fijian Species bought and their properties.*

Respondents were asked to specify the Fijian species they bought or, in the case of manufacturers what they sought in terms of wood properties. The data collected were used to identify the species type and quantify their demands in New Zealand markets.

(d) *Question 5. The Properties of Fijian Hardwood Species.*

Respondents were asked to specify if they bought such species because of properties like durability, usability, weight, appearance and price. Data collected from this question were used to provide background information on the reasons for buying these species and ascertaining which properties mainly influenced the buyers' decision to purchasing such species.

(e) *Question 6. The products used from these Fijian Hardwood Species in the New Zealand markets.*

Respondents were asked to specify the products they produced from the different species they bought. Data collected from this question were used to provide background information on which species produced similar and different products.

(f) *Question 7. The volume of the species imported or processed on an annual basis.*

Respondents were asked to specify the volume of particular species they imported on an annual basis. Data collected from this question were used to produce quantitative information on the amount of different species handled by the importing company or merchant.

(g) *Question 8: The length of time in doing business with Supplier/Wholesaler of Fijian Hardwoods.*

Respondents were asked to specify the length of time they have been doing business with the supplier or wholesaler of Fijian hardwoods. Data collected from this question were used to produce background information on the standard of service that had been offered between the intermediaries especially from the suppliers. Also, responses were helpful in identifying loyal customers for Fijian hardwood species and how to improve service in meeting the customers demand.

(h) *Question 9. The different types of customers.*

Respondents were asked to specify their different types of customers whom they are servicing. Data collected from this question were used to produce background information for different target audiences and their demographic structure.

(i) *Question 10-11-12. Advantages of processing final products in another country through merger.*

In order to take advantage of the low costs in developing countries (specifically Fiji) respondents were asked if their company needed to shift their operations off-shore, how important that would be. Data collected from this question were used to provide strong information for value-adding products, the type of business strategy to be used, and the financial benefits for the company.

(j) *Question 13-16. Certified Products*

The importance of *certified* forest products in New Zealand markets and the willingness of customers to spend a little more in purchasing these products. Respondents were asked how their customers feel about forest products from

sustainably managed forest regimes and the importance of this to them. Data collected from this question were used to provide strong information about the importance of producing a forest under sustainable forest management and the advantages to all stakeholders. Also determined was the importance of certified products as a marketing tool and the competitive advantage they have in the marketplace.

(k) *Question 17-18. Distribution of Products*

Distribution of products from the supplier to reach the final customer plays a vital role in today's marketing program. Respondents were asked whether they sell their products after manufacturing or after receipt from a manufacturer. Data collected from this question were used to provide better information about the current logistic systems and how to improve them to be more effective and efficient.

(l) *Question 19-21. Promotion*

Receiving better knowledge about a product makes marketing much easier in today's business environment with the help of modern technology. Respondents were asked whether or not the present information they are receiving about the Fijian Hardwood Species is helpful. Data collected from these questions should provide better information for product promotion and be used more effectively in helping customers to purchase a wider range of products from these species. Having a better knowledge about the product should change the customers' perceptions, and create interest in the products.

(j) *Question 22. Total hardwood wood products turnover by products types.*

Respondents were asked to specify the percentage of different types of wood products produced from these Fijian hardwoods. Data collected from these questions were to provide better background information on the types of value-added products manufactured from these species and assist in identifying value-added products which could be manufactured in Fiji and shipped to New Zealand.

(k) *Question 23. Annual Turnover*

A company's annual turnover provides good information about the financial strength of the company and their decisions to expand overseas to take advantage of the low manufacturing costs. Respondents were asked to specify their financial annual turnover.

(l) *Question 24. Company locations*

Respondents were asked to name regions in which their company is operating. Data collected from this question were used to provide better information about the regions that have high demand for hardwood products to target for importers of Fijian hardwood species. Also, having more areas of operation provides opportunities to distribute the Fijian products nationwide.

Chapter 5: Analysis and Results

5.1 Introduction

This chapter focuses on the survey results and the analyses of the data obtained during the course of the research, the main objectives of which were to obtain information on how:

1) Fijian hardwood species are being traded in New Zealand through intermediaries;
2) the market perceives the need for certification and /or sustainable forest management in order to sell tropical hardwood products successfully;
3) to access both business strategies and marketing opportunities through marketing networks for suppliers and importers.

The analysis is carried out with the use of the SPSS program version 7.0, 7.5, 8.0 for Windows. Analysis include frequencies, cross-tabulation and multivariate analysis. The findings are discussed in more detail in Chapter 6. The statistical implications of multivariate analysis provide indications, but are limited, other things being equal, due to small numbers of samples available, an endemic problem in small markets and small number of respondents.

5.2 Analysis and Results

1. How long you have been in the Timber Business?

Of the 13 respondents who answered this question, 2 (15%) had fewer than 5 years, 6 (46%) between 5 to 10 years, 3 (23%) 10 to 15 years, 1 (8%) 15 to 20 years and 1 (8%) more than 20 years. This indicates that merchants are sufficiently familiar with the timber business and the industry, as 85 per cent of them have more than 5 years of experience. This will be an advantage in marketing Fijian hardwood species in the New Zealand markets.

2. Does your company import hardwood species from Fiji?

A total of 8 respondents answered Yes (62%) with 5 (39%) answering No. This indicates that more than half are buying direct in from the suppliers and about 38 percent are buying from the importers. Mostly manufacturers and retailers prefer dealing with the importers or distributors rather than dealing direct in with Fiji suppliers.

3. In what form does your company import these hardwoods?

Of the 11 respondents 5 (40%) bought as green rough sawn and 6 (52%) as kiln dried rough sawn. 85 per cent of the imported products are in rough sawn which are then machined to final products in New Zealand. Other forms include plywood and veneer which are in very small amounts. There is less emphasis on value-added products resulting in more rough sawn materials imported from Fiji, which indicates the need for adding value to products before shipping out of Fiji. Increased demand for the present product forms results in increased environmental impact on native forest fauna and flora.

4. Which of the following Fijian Hardwood species does your company import/manufacture?

Of the 16 respondents 13 imported Dakua salusalu , 11 Dakua makadre, 9 Kaudamu, 7 Damanu, 8 Yaka, 7 Bauvudi, 7 Kauvula, 7 Vesi and 1 for other species. Apart from the five major species being studied in this research other Fijian hardwood species have huge opportunities in the New Zealand markets. Species that are of really high demand in the New Zealand market are Dakua salusalu, Dakua makadre and Kaudamu. It is important that more emphasis and attention are provided for these species in the sustainable forest management process so that these species do not disappear.

5. How would you characterize the properties of the following species?

Respondents for Kauvula species in Table 5.1 indicated that appearance, technical/quality/durability and price were very important and important in deciding to purchase. Kuavula is mostly used for picture frames and its wood density and characteristics are suitable for such a product.

Table 5.1: Properties of Kauvula

Species	Frequencies				
Kauvula	Technical/	Usability/	Visual/	Price	Service
	quality/durability	Weight	Appearance		/information
very important	2	1	3	3	1
important	3	3	2	3	3
moderately important	2	1	2	1	2
not very important		1	0	0	1
not at all important		1	0	0	0
missing	9	9	9	9	9
total	16	16	16	16	16

Respondents for Kaudamu in Table 5.2 indicated that properties such as technical/quality/durability, visual appearance, usability/weight and price rated

as very important and important in purchasing decision making. Also important is the information about the species where merchants need more information that will assist in future purchasing decisions. As discussed earlier, Kaudamu is a general purpose timber suitable for joinery, interior panelling, mouldings, furniture, covered flooring and plywood. The weight and usability of other species is less important compared to Kaudamu.

Table 5.2: Properties for Kaudamu

Species	Frequencies				
Kaudamu	Technical/ quality/durability	Usability /Weight	Visual/ Appearance	Price	Service/ information
very important	2	1	3	3	1
important	3	3	2	3	3
moderately important	2	1	2	1	2
not very important		1	0	0	1
not at all important		1	0	0	0
missing	9	9	9	9	9
total	16	16	16	16	16

Respondents for Dakua makadre in Table 5.3 indicated that properties such as visual/appearance, usability/weight rated as very important and important, including price in the purchasing decisions. Visual/Appearance is one of the major reasons why New Zealand customers buy Dakua makadre as replacement or substitute species for New Zealand Kauri. The weight character is important in the type of end-use products produced from Dakua makadre especially for tables, chairs, and other furniture. These furniture items need to be light when carried around the homes or for shifting purposes.

Table 5.3: Properties for Dakua makadre

Species	Frequencies				
Dakua makadre	Technical	Usability/	Visual/	Price	Service/
	/quality/durability	Weight	Appearance		information
very important	2	1	6	3	1
important	3	5	2	5	3
moderately important	4	1	1	0	3
not very important		1	0	0	1
not at all important		1	0	0	0
missing	7	7	7	8	8
total	16	16	16	16	16

Respondents for Dakua salusalu in Table 5.4 indicated that visual/appearance properties rated as very important in merchants' purchase decision. Dakua salusalu has similar characteristics as New Zealand sap rimu and with the reduction of rimu in the local market, merchants are looking for substitute species like Dakua salusalu. As discussed earlier in question 4, Dakua salusalu is the main Fijian hardwood species imported by New Zealand merchants in rough sawn form. This indicates the importance of Dakua salusalu in meeting the need of customers in the New Zealand market. Customers still rate service and information as important, and indicated that they need to know more about the species and its usage.

Table 5.4: Properties for Dakua salusalu

Species	Frequencies				
Dakua Salusalu	Technical/ quality/durability	Usability/ Weight	Visual/ Appearance	Price	Service/ information
very important	3	1	7	4	1
important	2	2	4	5	3
moderately important	2	2	0	1	3
not very important		1	0	0	2
not at all important		2	0	0	1
missing	9	8	5	6	6
total	16	16	16	16	16

Respondents for Damanu in Table 5.5, rated as very important the service/information. These characteristics are also rated as important, which indicate the relevance to end-use products produced from Damanu such as flooring, stairs, etc.. Durability is vitally important for Damanu compared to the other four species. This indicates the environment in which the species is used should withstand the kind of treatment it receives on a daily basis.

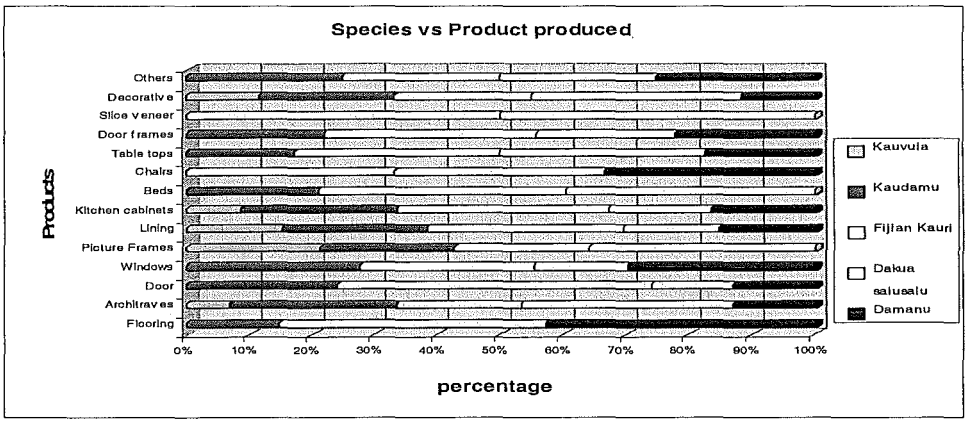
Table 5.5: Properties for Damanu

Species	Frequencies				
Damanu	Technical/quality/ durability	Usability/ Weight	Visual/ Appearance	Price	Service/ information
very important	3	2	5	3	2
important	3	2	2	4	1
moderately important	2	2	1	0	4
not very important		1	0	0	0
not at all important		0	0	0	0
missing	8	9	8	9	9
total	16	16	16	16	16

6. What products does your company produce from these hardwoods?

Respondents indicated that there is a relationship between the species and the product produced with regards to fourteen or so products [see Figure 5.1]. Damanu is used in manufacturing about 10 products. The species is dominant in the manufacturing of flooring, followed by chairs, windows, door frames, table tops, kitchen cabinets, lining, decorative and other items. The physical properties of Damanu as discussed earlier such as durability and appearance, contribute substantially to unique flooring and other products as shown in Figure 5.1. In addition to the physical properties, merchants are also looking for competitive price and more information about the species for promotional purposes.

Figure 5.1: Species vs Product



Dakua salusalu is seen as the most important species in the manufacturing of all the products including other products such as bookcases and curtain rods. The species is dominant in the manufacturing of slice veneer, flooring, beds, picture frames architraves, chairs, followed by decorative and other products. As stated in the earlier section 67% of respondents purchase Dakua salusalu for visual appearance. The species properties are almost similar to Rimu[44] and the banning of Rimu logging in state forests on the West Coast provides an opportunity for Dakua salusalu in the New Zealand market. Dakua makadre or Fijian kauri is also well known and a species in demand in the New Zealand market. As discussed in an earlier section 75% of respondents purchase Dakua makadre because of the colour and its being easily workable. Apart from flooring, the species can be used for almost 13 products or more. Sliced veneer and doors are the dominant products, followed by kitchen cabinets, door frames, chairs, lining, beds, table tops, picture frames and others. Kaudamu seems to be a well known species in New Zealand and is being used in almost 13 products apart from slice veneer. As discussed in the earlier section, 63% of respondents purchase

[44] Branz, 2000. Selecting timber. A guide to choosing timber for use in building. Page 67

Kaudamu because of colour and appearance, 51% purchase Kaudamu for weight and usability. Kauvula seems to have limited usage, with only five products and is dominated by picture frames. Its properties as softwood and whiteness in colour restrict the species to certain manufactured products. This provides a clear indication of the type of products being produced from these species in the New Zealand market and whether or not these products could be produced in Fiji. It also assists the researcher to identify the species that are of the highest demand in New Zealand and to work closely with the manufacturers or retailers regarding particular species which should not leave Fiji only in rough sawn form. Species like Dakua salusalu and Dakua makadre are greatly demanded in New Zealand and these species should leave Fiji in finished product form. This marketing strategy should also apply to other countries where Fiji is exporting its timber products that are in high demand.

7. **What is the average wood volume your company imports/processes on an annual basis?**

Respondents indicated that fewer than 200 m^3 had been imported per year for all five species [see Table 5.6] with most importers buying Dakua salusalu and Dakua makadre.

Table 5.6: Average volume of species imported/processed

Species	Kauvula	Kaudamu	Dakua makadre	Dakua salusalu	Damanu
less than 200 m^3	7	10	7	12	9
201-300 m^3		1	3	1	
301-500 m^3			1		
501 plus					
missing	9	5	5	3	7
total	16	16	16	16	16

The three species that are imported in more than 200 m^3 annual amounts are Kaudamu, Fijian Kauri and Dakua salusalu. This indicates the small volume of timber being shared amongst different imported amounts coming from a certain supplier. Such high demand for these Fijian hardwood species will likely result in shortages of supply, creating serious problems in meeting customer demand in the New Zealand market. This provides some important information regarding the need for these Fijian Hardwood Species as is well known in the law of economics for supply and demand. Because of the high demand for and lower supply of certain species, importers and merchants also compete in the market to maintain a consistent supply of these products. This could only be done by having enough stock in their yard at all times, whether needed by the market or not. This puts a lot of pressure on the supplier to supply green sawn lumber of Dakua salusalu, and Dakua makadre at a lower price, creating undesirable environmental impacts on native forest and the possible disappearance of the species.

8. How long have you been doing business with your supplier/wholesaler of Fijian hardwoods?

Responses on the length of time doing business in Table 5.7 indicated 6 between 2-5 years and 8 more than 6 years. This provides a better indication for the

researcher on how merchants knew about Fijian hardwood species. The longer they have been dealing with the species the better knowledge the merchants have established with their customers. This assists the researcher to identify them and work with them in establishing ways of better servicing their customers.

Table 5.7: Length of time dealing with Fijian hardwoods

		Frequency	Percent		
Valid	less than 2 years	1	6.3		
	2 to 5 years	6	37.5		
	6 to 9 years	2	12.5		
	10 to 13 years	2	12.5		
	14 to 17 years	4	25.0		
	Total	15	93.8		
Missing	System	1	6.3		
Total		16	100.0		

9. Who are your customers?

Respondents for customers in Table 5.8 indicated merchants, 3 (27%) both primary mainly, 4 (37%) few and 1 (9%) none. For upper income families respondents indicated 40% primary customers, 40% mainly and 20% few. Do-It-Yourself customers indicated 11% primary, 67% mainly and 22% few, similar to Owners of New Homes. Retailers indicated 40% mainly, 20% mainly, 10% few and 30% none with Others indicated 6%. This provides better information on the type of customers to be targeted especially those customers who provide higher returns to all stakeholders. This indicates that DIY and Owners of New Homes are the best target audiences together with upper income families and clearly shows that these Fijian hardwoods species are ending up in the top end of the market providing huge opportunities as a differentiated product.

Table 5.8: Major Fijian hardwood customers.

	Merchants	Upper Income families	Do-It-Yourself	Owner of New Homes	Retailers	Others
primary	3		1	1	4	1
mainly	3	4	2	0	2	1
few	4	4	3	6	1	1
none	1	2	3	2	3	1
missing	5	6	7	7	6	12
total	16	16	16	16	16	16

10. Is your company willing to consider processing final products in developing countries, like Fiji, so as to take advantage of lower processing costs?

Respondents to processing of final products in Fiji [Table 5.9] indicated that 3 strongly agree, 4 agree, 4 are neutral, 3 disagree, 1 strongly disagree. This should inform the researcher that some merchants are still finding Fiji risky to do business with and that they preferred processing their products in New Zealand. About 44 percent of the merchants are willing to process their products in Fiji which is a positive sign. The seven companies indicates that there may well be a future for adding value to products in Fiji before exporting them to New Zealand.

Table 5.9: Processing final products in developing country like Fiji.

		Frequency	Percent
Valid			
strongly agree	3	18.8	20
agree	4	25	26.7
neutral	4	25	26.7
disagree	3	18.8	20
strongly disagree	1	6.3	6.7
Total	15	93.8	100
Missing	1	6.3	
Total	16	100	

11. What business strategy would your company develop in manufacturing products in developing countries, like Fiji?

Respondents to the business strategy for developing countries like Fiji indicated preferences for mergers 19%, buy components 25%, distributor 25%, and acquisitions 6% [Table 5.8]. This provides clear indications on the type of business strategy the New Zealand merchants preferred most which are buying components and finishing them in New Zealand or becoming the main distributing agent for the Fijian Species in the market. Becoming a distributing agent in the market would be preferable to buying components and finishing them in New Zealand. As a distributing agent, the company could be selling finished products manufactured in Fiji resulting in job opportunities and also providing updated information regarding the New Zealand market. Understanding the market and how it behaves provides huge opportunities for the Fiji suppliers. Most suppliers are still using production and selling technique that lack marketing knowledge.

12. Estimate the savings your company might generate if processing/manufacturing of final products occurred in Fiji.

Respondents for company saving from processing/manufacturing of final products done in Fiji are shown in Table 5.10. The results indicate that seven companies would generate savings around 10-25%, but only one between 51-75%. This suggests to the researcher that manufacturing final products in Fiji would not only benefit the Fiji government, but also benefit the importers and final customers financially.

Table 5.10: Company savings if processing done in Fiji

Company Savings		Frequency	Percent
Valid			
10 to 25%	7	43.8	87.5
51 to 75%	1	6.3	12.5
Total	8	50	100
Missing	8	50	
Total	16	100	

13. Do your customers request certified products?

Of the 16 respondents in Table 5.11, 2 strongly agree, 5 agree, 6 are neutral, 2 disagree and 1 strongly disagrees. This indicates to the researcher some degree of importance for certified products, but a substantial number of respondents are neutral regarding the need for certification of products. The availability of certified products from Fiji would service a certain niche market that strongly agrees and agrees with the need for certified products and who are willing to pay high prices for the products. Product certification is a way forward for Fiji where the extracted forests are under sustainable forest management. Certification will not be used as a marketing tool but pressure from outside countries like New Zealand for certified products is considered to be vitally important (discussed in more detailed in the next chapter on Product/Country Image).

Table 5.11: Request for Certified Products

Request for Certified Products		Frequency	Percent
Valid			
strongly agree	2	12.5	12.5
agree	5	31.3	31.3
neutral	6	37.5	37.5
disagree	2	12.5	12.5
strongly disagree	1	6.3	6.3
Total	16	100	100

14. Why is your company interested in certified products?

Of the 16 respondents interested in certified products shown in Table 5.12, Public Image reasons had 3(21%) strongly agree, 7(50%) agree, and 4(29%) are neutral. Customer demand, 2(14%) strongly agree, 6(43%) agree, 6(43%) are neutral. Market Access, 1(10%) strongly agree, 2(20%) agree, 7(70%) are neutral. Niche Market, 2(20%) strongly agree, 3(30%) agree, 4(40%) are neutral. As a Responsible thing to do, 3(25%) strongly agree, 6(50%) agree, and 3(25%) are neutral. This indicates to the researcher how the merchants perceived certified products especially for Public Image and the Responsible thing to do. These two considerations have strongly influenced our society we live in and could change the whole perception of what people or buyers think about a particular product.

Table 5.12: Interest in Certified Products

Valid	public image	customer demand	market access	niche market	responsible thing to do	others
strongly agree	3	2	1	2	3	
agree	7	6	2	3	6	1
neutral	4	6	7	4	3	1
disagree				1		
missing	2	2	6	6	4	14
total	16	16	16	16	16	16

15. Are your customers willing to pay a higher price for environmentally friendly products?.

Of the 16 respondents to willingness to pay a higher price for environmentally friendly products Table 5.13 indicates 4(25%) agree, 6(38%) are neutral and 5(32%) disagree, and 1(5%) strongly disagrees. The results suggest that the majority of the merchants importing Fijian timber are neutral in regard to paying

a higher price for certified products, but 25 percent would agree to pay a higher price. The 25 percent could be the target audience for supplying certified products. Certain companies are not willing to buy Fijian products because they are not certified and also their image in the marketplace is important.

Table 5.13: Customers' willingness to pay a higher price for environmentally friendly products

Willingness to pay higher price on environmentally friendly products			
		Frequency	Percent
Valid			
agree	4	25	25
neutral	6	37.5	37.5
disagree	5	31.3	31.3
strongly disagree	1	6.3	6.3
Total	16	100	100

16. What percentage price increase would you expect to pay for certified products you purchase?

Of the 16 respondents, for the percentage increase they are willing to pay shown in Table 5.14, 10 (72%) 1-5%, 3 (22%) 6-10% and 1 (7%) 11-15%. According to Hugh Bigsby[45] customers' willingness to pay extra cost for certified products is between 10 and 25% similar to company savings of 10 to 25% as discussed in the previous section. The banning of Timberland West Coast Rimu logging highlighted the seriousness of environmental issues in native forest logging. This resulted in some sawmills being no longer in operation and loss of both business and employment.

[45] H. Bigsby & Lucie K. Ozanne. 1997. NZ Consumer and Environmental certification of Forest products.

Table 5.14: Percentage price increase to pay for certified products

		Frequency	Percent
Valid	1-5%	10	62.5
	6-10%	3	18.8
	11-15%	1	6.3
	Total	14	87.5
Missing	System	2	12.5
Total		16	100.0

5.2.1 Cross-Tabulation (Certification)

The main aim for cross-tabulation[46] is to find the relationship between the attitudes of the timber traders towards certification products. This should give an insight into the Fiji Timber Industry and to wood exporters regarding the importance of certified wood products.

Results

Certification versus Public Image

Finding the relationship between certification and public image for the customers is important for the merchants or manufacturers. The Chi-square test Appendix 13 (a) shows that Pearson-Chi Square value is 17.667 with a significance of 0.007 which is significant. This indicated that merchants are concerned about their public image and being seen by the public to be listening to what the public wants. Industrial foresters today are much involved in the science behind forest management and the environmental worth of the product, but have little standing in politics, where public opinion is important. The New Zealand and Fiji public moreover, is not well informed on resource management issues.

[46] Process of simultaneously treating (or counting) two or more variables in the study and categorizes the number of respondents who have responded to two or more questions consecutively.

Certification versus Customer Demand

The relationship between customer demand and certification of products is important. The Chi-square test [see Appendix 13 (b)] indicated that Pearson-Chi Square is 18.667 which is significant at the 0.005 probability level, which means that the probability that customers will buy certified product is high. Merchants/manufacturers need to fulfil the requirements of their customers therefore by producing certified products. Customers themselves are also concerned about what they buy in relation to environmental impact.

Certification versus Market Access

Is there a relationship between market access and product certification? The Chi-square test in this case [see Appendix 13 ©] indicated that Pearson-Chi Square of 11.643 with a probability of only 0.07 is not statistically significant. This indicated that there may well be a demonstrable relationship between certification and market access. In the observed cell frequencies we can conclude that 80% are neutral on rating regarding market access.

Certification versus Niche Market

Certification of wood products should provide niche markets in New Zealand. The Chi-square test [see Appendix 12 (d)] indicates Pearson-Chi Square is 16.750 with a significance of 0.053. This indicated that there may well be a demonstrable relationship between certification and niche marketing in New Zealand. Merchants have identified that there is a certain group of customers who wish to buy certified products. It is important that this group of customers, therefore, is supplied with the right wood products.

Certification versus Responsible thing to do

The relationship between product certification and the responsible thing to do with regard to public opinion is vital for the industry. The Chi square test shows that Pearson-Chi-Square is 12.800 with a probability of 0.046 [Appendix 13 (e)]. This indicated that there is an association between certification and the responsible thing to do. Merchants/manufacturers indicated that they are also responsible for buying wood products from any country that practises sustainable forest management.

5.2.2 Cross Tabulation (Processing Final Products in Fiji)

The main aim for cross tabulation is to find the relationship between companies importing Fijian Hardwoods Species versus Processing Final Products in Developing Countries like Fiji. The result should assist the researcher in identifying whether New Zealand merchants are willing to process their final products in developing countries like Fiji taking advantage of lower operational costs. The chi-square test printout [see Appendix 14] indicates that Pearson Chi Square value is 7.756 with a probability of 0.101. In other words, there is no evidence of a significant association between companies importing Fijian hardwoods and processing final products in developing countries such as Fiji. In the individually observed cell frequencies, we can conclude that almost all merchants that import these Fijian hardwoods are neutral (75%) about having processing plants in Fiji. This indicated that merchants/manufacturers in New Zealand still rate Fiji as a high risk country for investment after two political episodes of unrest.

17. How do you sell your products?

Respondents on the distribution system indicated 10 (63%) wholesalers, 5 (31%) industrial customers, 3 (19%) retailer and 1 (10%) others. This provides a clear indication that most of the timber merchants handling Fijian hardwoods are wholesalers who store the product for other intermediaries.

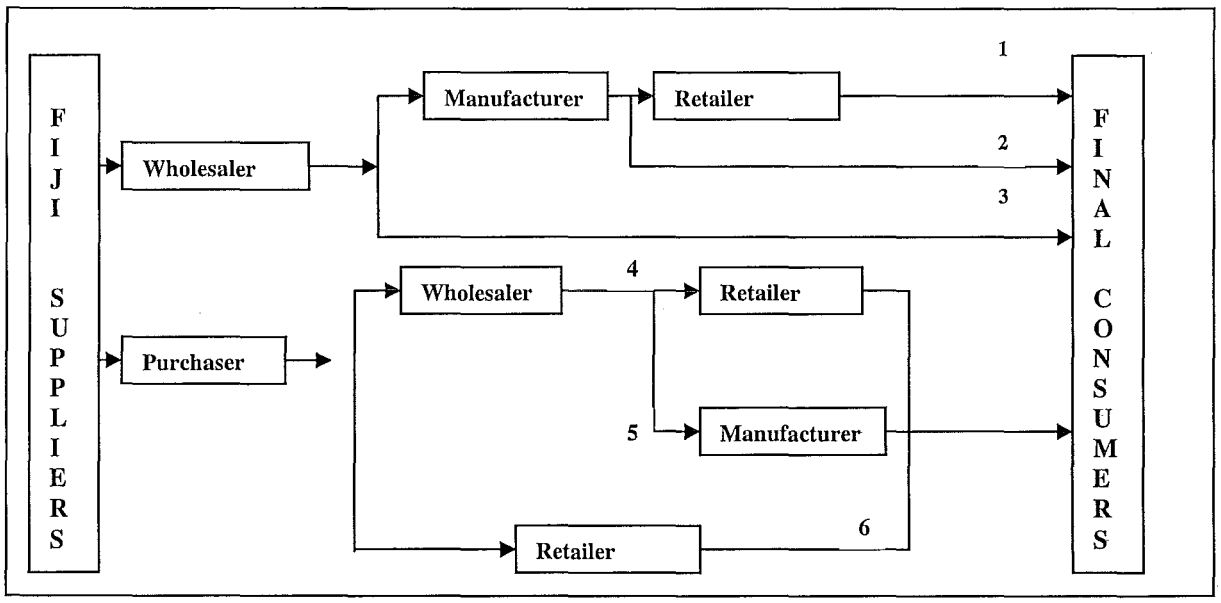
18. How many distributors/agents handle Fijian hardwood products before reaching the final customers?

Of the 16 respondents on the number of distributors Table 5.14 indicated that 4 (28%) have none, 7 (44%) 1-2, 1 3-4 (6%), and 3 (19%). This provides a clear indication to the researcher about the present distributing system and ways to improve the distribution system. Increased intermediaries will also result in an increased price for lumber before it reaches the final customers, thus forcing a lower price on the supplier end. The volume of lumber imported by different merchants is low and so distributing channels need to be formed that are suited to such low volume quantities of lumber distributed amongst 25 to 30 so called wholesalers. Table 5.15 indicated the number and the different distributing agents in the market. This clearly indicates the need to reduce the number of distributing agents through better communication networking as shown in Figure 5.2.

Table 5.15: Number of distributors before reaching final customers

		Frequency	Percent
Valid	None	4	25.0
	1-2	7	43.8
	3-4	1	6.3
	more than 4	3	18.8
	Total	15	93.8
Missing	System	1	6.3
Total		16	100.0

Figure 5.2: Present Distribution System



1. *Supplier-Wholesaler-Manufacturer-Retailer-Consumer.* This is the major distribution channel being employed in the market where small amounts of Fijian hardwoods are being imported and stored for other manufacturers, or processed by the wholesaler and sold to retailers then to final customers.
2. *Supplier-Wholesaler-Manufacturer-Consumers.* This resulted from low-volume retailers and high-volume consumers. Consumers deal directly with manufacturers for specialized wood product design from Fijian hardwoods products.
3. *Suppliers-Wholesaler-Consumer.* Certain wholesalers are using such distribution channel where there is high volume of wood manufacturers and a high volume of wood consumers. An example is a major timber distributing centre buying tropical timber from different countries and selling to all customers including final customers in the New Zealand market.

4. *Supplier-Purchaser-Wholesaler-Retailer-Consumer.* This occurs where there is a high volume of lumber manufactured and small wood consumers resulting in a wholesaler entering the market directly.
5. *Supplier-Purchaser-Wholesaler-Manufacturer-Consumer.* This occurs when there is a high volume of lumber manufactured and a high volume of wood consumers where the manufacturer goes directly to the consumers.
6. *Supplier-Purchaser-Retailer-Consumer.* There are low-volume producers working closely together with low volume consumers. Purchasers buy lumber from small suppliers and service a small niche market.

The recommended distribution alternative will be discussed in more detail in the next section on distributing strategy.

19. How did your company receive information about these Fijian species?

Respondents about information received on Fijian species indicated that 9 (56%) got this from the Fiji Timber Handbook, 8 (50%) from sales representatives, 2 (13%) from brochures and 6% from others which include visits by merchants to suppliers sites. This provides clear indication to the researcher about the need to identify ways in which more information is made available to merchants, manufacturers and end-users. Accessibility of information will provide better understanding about species, creating interest in purchasing them or exciting potential new customers.

20. Is your company receiving sufficient information about these species from the supplier for promotion purpose?

Of the 16 respondents to whether or not companies are receiving enough information about the species Table 5.16, 1 (6%) strongly agree, 2 (13%) agree, 9 (60%) are neutral, 2 (15%) disagree, 1 (6%) strongly disagree. This indicates that suppliers themselves lack species information and are thus insufficiently informed about promoting these Fijian hardwood species both in the local and overseas markets. There is a need for the Fiji Government and the Industries to work together in providing promotional strategies regarding these species. This huge opportunity for marketers to have better understanding about the species and their usage should result in increased demand in the marketplace.

Table 5.16: Information about the Species

Information about the species		Frequency	Percent
Valid			
strongly agree	1	6.3	6.7
Agree	2	12.5	13.3
Neutral	9	56.3	60
Disagree	2	12.5	13.3
strongly disagree	1	6.3	6.7
Missing	1	6.3	
Total	16	100	

21. Are the species products well presented in the marketplace for final customers' appreciation?

Of the 16 respondents to presentation to final customers Table 5.17 indicated that 2 (13%) strongly agree, 6 (40%) agree, 5 (31%) are neutral and 2 (13%) disagree. This provides a better indication for the researcher regarding the species being presented in the marketplace. Final customers need to know more

about the species, and the Fiji government should work closely together with the New Zealand merchants in providing promotional strategies in New Zealand markets. There is a need to publish a new or up-dated literature regarding Fijian hardwood species. This updated literature should be handed to intermediaries including final customers to transfer better knowledge about the species.

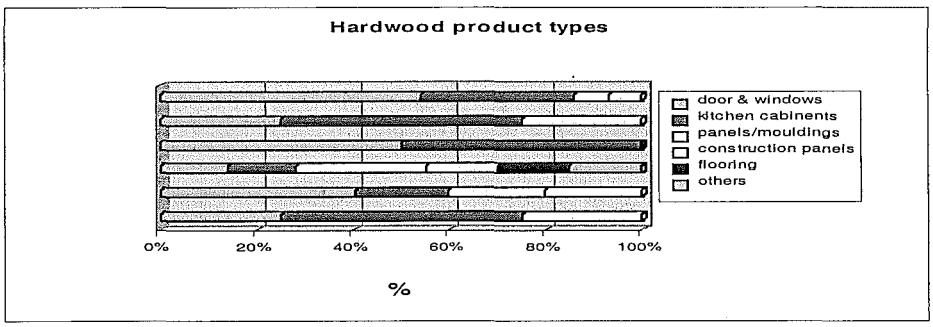
Table 5.17: Presentation to final customers

Presentation to final customers		Frequency	Percent
Valid			
strongly agree	2	12.5	13.3
Agree	6	37.5	40
Neutral	5	31.3	33.3
Disagree	2	12.5	13.3
Total	15	93.8	100
missing	1	6.3	
	16	100	

22. What percentage breakdown of the company's total hardwood products turnover by product types (%)?

In responding to the breakdown of the company's turnover by product types, respondents indicated that doors and windows and kitchen cabinets are the common product types produced [Figure 5.21]. There are followed by panels/mouldings, construction panels, flooring and others (included sliced veneer, furniture, etc.). This conveys an indication to the researcher about the major product types produced from these hardwoods and the type of target audiences to be served in the market. The product type indicates where these hardwood species are mostly utilized and the need to sustain the supply of these species in fulfilling marketplace demand.

Figure 5.21: Hardwood Products Types



23. What is the annual turnover of your company (on average)?

Of the 16 respondents to the annual financial turnover question [Table 5.18] 2 (13%) stated less than $500,000, 2 (13%) 500,000 to 1 million, 2 (13%) 1 million to 1.5 million and more than 2 million 7 (43.8%). This provides an indication to the researcher about the financial strength of the companies and their financial commitment in any business strategy to support developing countries like Fiji. Companies with more than 2 million dollars of annual turnover could be interested in investing in Fiji.

Table 5.18: Total Annual Financial Turnover

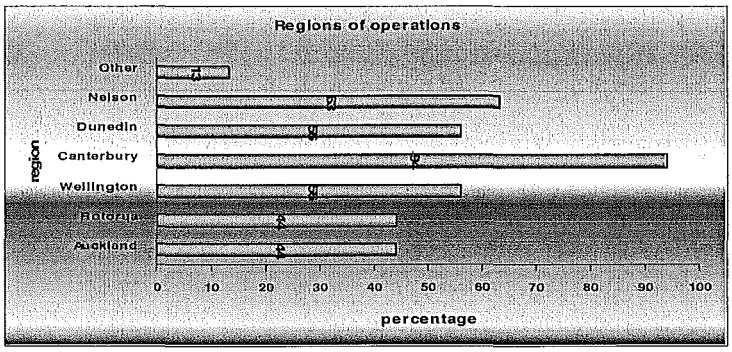
Total annual turnover financially		Frequency	Percent
Valid			
less than 500,000	2	12.5	15.4
500,000 to 1 million	2	12.5	15.4
1,000,001 to 1.5 million	2	12.5	15.4
more than 2 million	7	43.8	53.8
Total	13	81.3	100
missing	3	18.8	
Total	16	100	

24. What are the regions your company is operating in?

In responding to the region of operation, respondents indicated 98% for Canterbury, 63% for Nelson, 56% for Dunedin and Wellington, 44% Auckland

and Rotorua, 12% others (including West Coast, Tauranga, etc.) [see Figure 5.26]. The outcome of the survey may favour Canterbury from where most of the respondents came who participated in the survey. The outcome provides a clear indication to the researcher regarding the regions to concentrate on when marketing these Fijian hardwood products. Detailed analysis of the geographical region will be discussed in more detail in the next chapter.

Figure 5.26: Regions of Operations



5.2.3 Interviews

This section represents the interviews which were conducted during the visits to the importers/distributors and manufacturers of the Fijian hardwood suppliers.

Placemakers, Riccarton, Christchurch. Timber Distributor

Paul Piebenga is in charge of the timber sales for PlaceMakers for the Riccarton Office. During the meeting he showed me all the mouldings made from Dakua salusalu that they are selling as the substitute for rimu which consist of about 38 different designs. They purchase their products from merchants most of whom buy directly from Fiji as rough sawn timber, processed in their factory and then sold to PlaceMakers. He stated that people love the quality of these Fijian species and that they are pleased to have species

that could substituted for Rimu. Placemakers target DIY (Do-it-Yourself) customers and their retail store lay-out also helps to provide better service for customers.

McVicar Timbers, 550 Johns Roads,Christchurch

Reg Anderson is a part-time sales and marketing manager for McVicar Timbers and has spent almost 40 years in the timber business. He handles the Fijian hardwood species and his customers (joiners, furniture retailers) love the wood. His experience with Fijian suppliers is almost invariably "suppliers promise to deliver the order but fail to deliver on time". If Fiji wants to sell its products then they have to deliver on time. He has cancelled most of his customer orders for Fijian hardwoods due to non-delivery. McVicar is buying Kaudamu, Dakua Salusalu, Yaka and hardwoods from mostly four Fijian suppliers. Fijian timber has been promoted as a substitute for Rimu and other hardwoods. According to Mr Anderson, the New Zealand market is a quality market and quality products are needed for their sales. Fiji suppliers, therefore have to supply quality timber to survive in New Zealand as competition become more vigorous for tropical hardwoods.

Robert Grice, 25 McNally Street, Ashburton

Robert Grice is a furniture retailer and distributor of both exotic and native timber. He supplies mostly beds, cupboards, chairs, and drawers to main distributors and retailers around the country and internationally. He buys mostly Dakua salusalu (size 100 x 50 standard grade) from three Fiji suppliers for bed railings. He is also interested in Yaka, Dakua makadre, mahogany of various lengths (0.65 metres plus) and sizes (25 mm & wider). He is willing to purchase rough sawn of large sizes and re-manufacture them into required sizes in his yard. Robert Grice is also facing the same problems as other importers of Fijian hardwood trading, namely inconsistency of supply. This has caused

many problems with his customers for not delivering the right product on time. Mr Grice is very much interested in Fijian hardwoods and willing to be one of the main distributors of the species in New Zealand.

J. Scott & Company, Kumeu, Auckland

Malcolm Scott has been in the timber business for 30 years, taking over the business from his parents. He knows Fijian timber species really well and was buying Fijian hardwoods from Fiji Forest Industries Limited during the time I was working for the company as the marketing officer. Mr Scott opened our meeting by quoting *"PACIFIC HIDDEN BEAUTIFUL TIMBER SPECIES" which are not well known on the world market have huge potential. "Your timbers are beautiful," he said, "but the market knows little about them. You should upgrade the literature because the present Fiji Timber Handbook by Alston is out of date with regard to presentation of the species. Publish up-to-date literature showing different types of products made from these species for the customers to know that such beautiful woods do exist."* J Scott & Company is the main supplier of Fijian timber mouldings into main retailers like PlaceMakers, especially for species like Dakua salusalu (Pacific Sap Rimu) and Yaka (Pacific Heart Rimu). Malcolm Scott feels that the three major factors a customer wants to know about any species are: stability, appearance and price. Stability is the most important characteristic in the customers' decision making regarding any species. He quoted that "the market determines the timber industry" and for Fiji to be successful it needed to work closely with the industry so that all stakeholders had a fair share of the financial return. He also said that certified products are important for the future of Fiji's timber industry. In Europe certain markets do not bother about the price of the timber as long as it is certified. Regarding Fiji Suppliers, his

company is purchasing timber from four different mills and they are servicing him well. The company is also buying similar species from Papua New Guinea; species like Kwila (similar to Vesi), Podocarp (similar to Sap Rimu), Calophyllum (similar to Damanu).

North Harbour Timber Ltd, Albany, Auckland.

Bruce Fordham has been running his own timber business for the past five years importing Fijian hardwood species mainly Dakua makadre, Dakua Salusalu, Yaka and Kaudamu. The operation is small which suits him and his one employee, supplying timber to joinery and furniture manufacturers. Species like Kaudamu are now consistently accepted by the market and demand for 25 mm thickness for joinery continues to grow. He has to buy similar species from other importers to fulfil his customer demand. He hopes that one day the suppliers can improve their service so that the customers for Fijian hardwoods are satisfied. He was happy to complete the questionnaire.

5.3 Summary

Fijian hardwoods have huge potential in the New Zealand markets according to the five timber merchants dealing with Fijian hardwoods. All the merchants want these hardwoods to compete well in the market and to achieve this—the species have to be well presented. They have been doing their part in promoting the Fijian products but the Fiji government should have more involvement in the industry especially internationally in trying to compete with other tropical hardwoods around the world. Fiji has a huge advantage in its closer location to New Zealand but they (Fiji) should put their act together in aggressively marketing these species in the international market especially New Zealand and Australia.

Chapter 6: Marketing Plan Development Framework

6.1 Introduction

This chapter describes the marketing plan framework, including a strategic management programme, suitable for all stakeholders dealing with Fijian suppliers and intermediaries in the New Zealand markets.

6.2 Strategic Management

A successful marketing network for Fijian hardwood in the international markets depends entirely on the type of strategic management technique used. Some of these used are discussed in this first section.

6.2.1 Multinational Strategic Alliance

Strategic alliances are one key way to meet changing worldwide competitive market requirements and what differentiates the strategic alliance is the concept of sharing control and management on a *continuing basis*. In today's global business modern technology influences the way we do business resulting in customers having access to more suppliers in fulfilling their needs or wants. This has increased competition amongst suppliers, merchants and retailers, thus forcing the price of goods to decrease especially in the timber industry. Since the Fijian hardwood suppliers are small and cannot meet the demand of international markets individually; forming an alliance at the supplier end and also with New Zealand importers, manufacturers and retailers will benefit all parties in today's business environment. The alliance must fulfil four criteria; add-value, learning, protects and enhance core competencies and competitive advantages, and enable

flexibility (Mockler 2002). According to Mockler, the best alliances suitable for Fiji hardwood suppliers and New Zealand partners are *co-development partnership alliances* where partnership amongst competitors, customers, suppliers, and manufacturers exists.

Alliance Based

1. *Long-term relationships.* Long-term relationships between business partners are crucial in a multinational strategic alliance and should create a brighter future for Fijian hardwoods in the New Zealand market.
2. *Fewer suppliers.* The underlying purpose of the multinational strategic alliance is to address the generally perceived problems of Fijian Hardwood Suppliers including supply instability, inconsistent quality-and volume, typified by the action of one distributor who has to coordinate-the activities of New Zealand importers and distributors (Leo Dana 2000). At present, an importer has to deal with more than four or five suppliers causing a number of problems in securing orders and also frustration to both importers and retailers.
3. *Cooperatives partnerships. A* Multinational Cooperative Partnership adds a new dimension to the field of strategic management and should result in competitive advantages for the ventures. Strategic partnerships will quickly acquire resources and competencies beyond the capacities of individual firms and have the ability to join with potential competitors, thus reducing the threat of future rivalry or denying the expertise of a partner to a competitor.
4. *Domination of value-added services.* The strategic alliance should result in creating value-added services, involving activities ranging from sourcing timber from small sawmillers, to an export centre in Fiji which delivers to a New

Zealand distributor and then on to the customers (manufacturer, retailer, consumer).

5. *High investment for both buyer and supplier.* Increased investment is needed to integrate all business partners in multinational strategic alliances. These will include finance, information, training, distribution, time and the overall business strategies for each company, where all parties have a win-win situation. To survive in today's business environment, Fijian suppliers have to form strategic alliances with their international counterparts in New Zealand.
6. *Extensive product, marketing, and logistics information sharing.* Extensive sharing of information regarding the overall business environment internally and externally will help all parties to focus on achieving their organization goals and also ensure they receive necessary information.

6.2.2 Culture and International Business

The strategy and structure of multinational strategic alliances are important, but the heart of such an alliance is its corporative culture. It is the means through which global strategies and structures are executed in order to ensure multinational strategic alliance competitiveness and profitability. Such culture comprises the mission, vision, values, beliefs, expectations, and both conceptual and perceptual attitudes of its members[47]. Both New Zealand and Fiji should learn to understand each other's formal and informal values, rules, structures, norms, and attitudes of people and the real cultural criteria for solving social issues. Fijian suppliers are good at saying 'yes' to the orders and according

[47] Kip, B. 1999. Culture and International business

to Reg Anderson[48], they are friendly people and take the order automatically, but they do not deliver on time. Forming an alliance with the importer will eventually change the culture of the business and allow the suppliers to learn how the Kiwi individualistic culture works. Cross-cultural experts believe that ethics is a system of beliefs that supports morality with moral value systems involving cognitive standards of understanding by which people are judged right or wrong, especially in relationships with other people (Kip 1999). Ethical value systems are also known as functions for making decisions that balance competitive demands. N. Papadopoulos[49] stated that the perceptions of the sourcing country involve cognition[50], and impact[51].

6.2.3 Product-Country Image

Product country image deals entirely with the potential role of images of countries in marketing and buyers' behaviour. According to N. Papadopoulos,[52] the willingness to purchase products was related to the economic, political, and cultural characteristics of the product of origin. Products from countries with political instability, lack of technology, and from developing countries are rated of lower value compared to products from countries like Sweden, America and Canada. Given the political instability faced by Fiji in the past 13 years, especially in the year 2000; we might anticipate significant shifts in such perceptions towards Fijian products especially in the timber industry international markets. Some New Zealand importers have not only stopped buying products from Fiji, but they are looking for substitutes from other neighbouring Pacific countries, or other

[48] McVicar Timber sales manager
[49] N. Papadppoulos, L. Heslop, (1993). Product and Country Image. Page 91
[50] The country's degree of industrial development and technological advancement provides an image of such a country.
[51] Having better knowledge about the people or customers with whom you are doing business, creates a positive image about the country.
[52] N. Papadopoulos, L. Heslop, (1993). Product-Country Image. Page 91

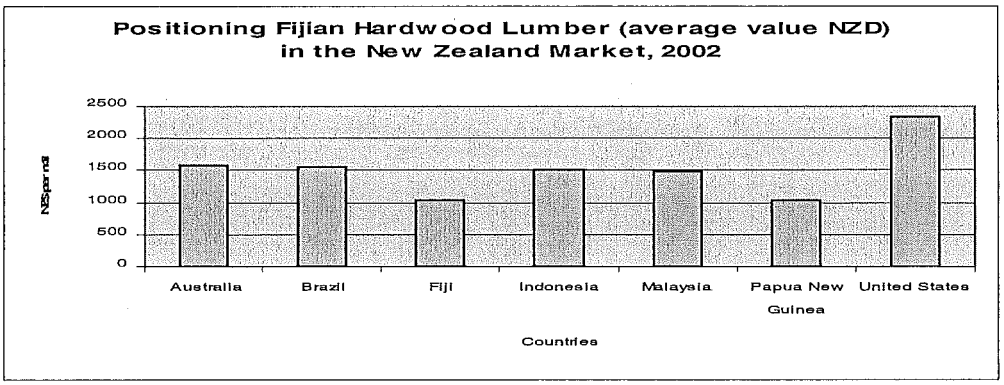
tropical countries. The shift in the location of production to low labour cost countries could have both positive and negative effects on the attitudes of New Zealand timber merchants. One would expect that moving into a low-wage country with a weak image would be a negative factor, but this shift is mitigated by the fact that such strategic relocations are often limited to simpler products (leisure apparel, inexpensive watches, cheaper running shoes, etc.) where the manufacturing process can be standardized.[53] A second finding is that for products manufactured away from home, a strong brand name may override the country-of-origin effect.

The Function of Image

Timber exporters face country images regardless of whether or not they have taken an active part in creating them. These images can act as significant barriers to, or as facilitators of entry into foreign markets. According to N. Papadopoulos and L.A. Heslop (1993), the country image could reflect the product image that influences international customers' perceptions. Figure 6.1 indicates how New Zealand customers perceived or rated hardwood products from seven major suppliers. It clearly indicates that developed countries (USA, Australia) are rated more highly than developing countries, such as Fiji and Papua New Guinea.

[5353] N. Papadopoulos, L. Heslop, (1993). Product-Country Image. Page 83

Figure 6.1: Image of Fijian hardwoods vs other Countries' hardwood species



Sources: Stats. NZ, 2002

Where and When Product-Country Images are Important[54]

According to research there are several factors which have been shown to be related to country-product images or to use of information, including characteristics of the product, the decision criteria, decision process and individual characteristics. Consumers will be more positive toward products from countries which are perceived to be more industrially developed, because these countries are judged to produce goods with greater "product integrity", which they are seeking. This is an advantage for products being finally processed both in New Zealand and Australia before reaching final consumers.

6.2.3 Marketing Logistics/Supply Chain Management

In today's global environment and with global information, communication and transportation systems have virtually opened any market to any product or service. The Fiji Timber Industry needs better supply chain management if it wants to compete in the New Zealand market [see Appendix 15].

[54] N. Papadopoulos, L.A.Heslop. 1993, pages 68-71

The Key Themes for Fijian hardwood products

Customer Focus

Whoever handles our product is our customer. The customer demand can be regarded as the prime mover. As discussed earlier, most of the merchants have had difficulties in fulfilling their customers' demand for Fijian hardwoods, because of unreliable suppliers. There is no proper supply guideline for the suppliers and the importers of these hardwoods. Do suppliers seriously want to do business with the New Zealand merchants?

Cycle Time Reduction

The ready availability of tropical hardwoods has created a highly competitive marketplace for tropical hardwoods landed in New Zealand and Fijian hardwood suppliers need to change their operating methods to successfully compete in the New Zealand market. Reducing the lead time[55] is important in creating a supply channel system to both suppliers and importers. Most New Zealand importers are frustrated with the delay in fulfilment of their orders, which take about 3-4 months to be delivered. As such, the quality, speed, and accuracy of the order processing function will have a fundamental impact on channel competitive positioning. There is a significant need to improve the availability of Fijian hardwood products in the market, according to Paul Piebanga, Timber Department Manager, PlaceMakers, Riccarton Christchurch.

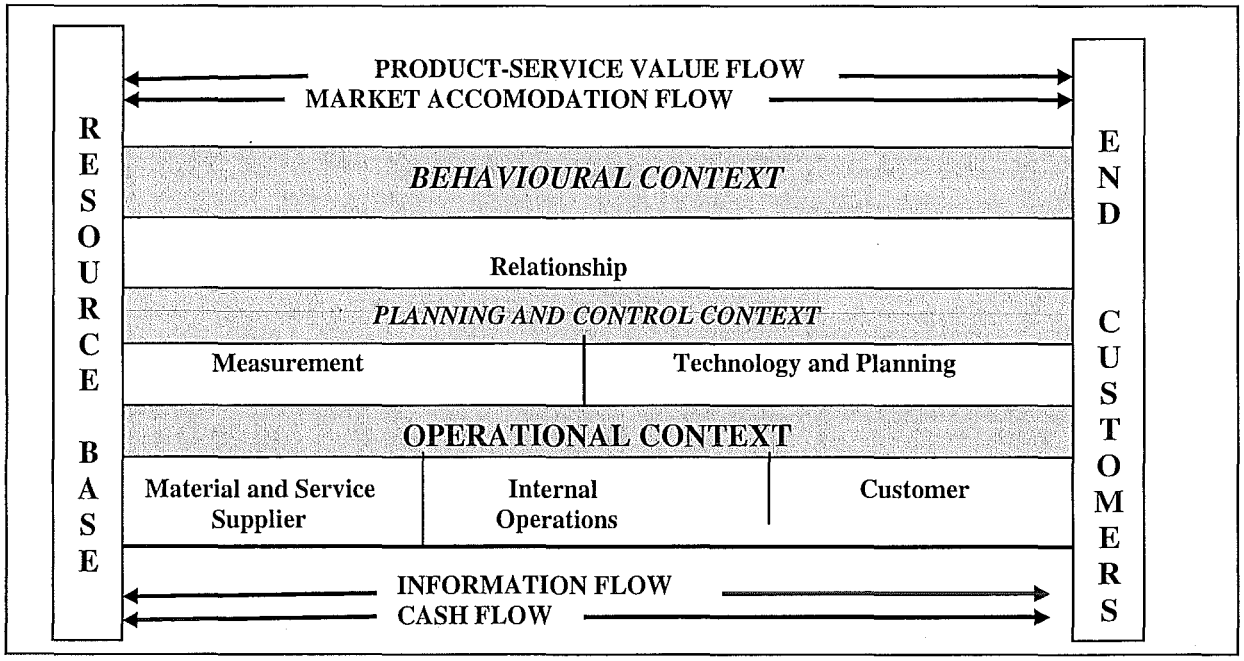
Partnership/Alliance

As discussed earlier, intermediaries (individuals/companies) are handling these Fijian hardwood products before they reach the final customers. Creating an alliance will help break down the barriers between the suppliers and New Zealand importers/merchants.

[55] "Customer Order" lead time is concerned with the time it takes to process a customer order from the moment demand is identified to the time it is delivered.

Alliance partners should work closely together as a joint task force to work out operating guidelines for the alliance. Groups of suppliers and intermediaries or distributors need to share information and revamp delivery times for channel efficiency and added-value.

Figure 6.2: Supply Chain 2000 Framework



Source: Lecture Note: Supply Chain Management, 2002. Lincoln University.

Supply Chain 2000, Figure 6.2, provides a distribution network, which is performing the following marketing connectivity for Fiji timber:[56]

1. *Information Flow.* The present information flow between the Fijian suppliers and New Zealand importers is very poor causing greater problems in marketing these species in New Zealand. It is important to both parties to provide the right information about the availability of these species and the changed market conditions for these species. Marketing research about customers, advertising,

[56] David F. Ross. (1998). Competing Through Supply Chain Management, pages 172-173.

pricing, competitors, and other forces in the marketplace is fundamental to channel success. Timely marketing information enables channel members to keep abreast of the sales opportunities, product and service requirements, promotions, and other activities.

2. *Title Flow.* During the partnership/alliance the ownership of goods changes from the Fijian suppliers to the New Zealand importers as goods move through the supply channel.
3. *Negotiation Flow.* Goods could only move through the supply chain supply after final agreement between the two partners on the pricing, quantity, grades, shipment, and payment terms. Most Fiji suppliers want to ship the products as soon as possible and then later negotiate the pricing. This has caused a lot of problems with Fiji Forest Industries customers.[57] Negotiation should always be supportive of the overall competitiveness of the supply system and market conditions.
4. *Ordering Flow.* The actual placement of customer and inventory replenishment orders, as well as intelligence concerning marketing trends, provides critical information for the supply network. This information flows from the end consumer through retailers, wholesalers, and manufacturers, ending up with the components and raw materials suppliers.
5. *Payment Flow.* The flow of cash payment proceeds through the supply channel. The present Fijian practice indicates that all payments are made when timber is landed in the importers' yards where transfer (TT) telex is made against faxed

[57] Experience faced by the researcher during his 2 year term as marketing officer of Fiji Forest Industries.

invoice. Often banks and other financial institutions are involved in payment for goods and services.

6.3 Marketing Plan Framework

A marketing plan framework creates for Fijian hardwoods industries an opportunity to compete in the tropical hardwood market in New Zealand. Without a marketing plan framework both suppliers and importers (especially the suppliers) will not perceive the wants and needs of prospective and existing customers [see Appendix 16]. It is important that Fijian suppliers first determine who are their customers and then try to satisfy their specific wants and needs through an understanding of their perspective. Having an alliance with the importer will be a huge advantage.

6.3.1 Market Size and Trend

The size of the tropical hardwood markets in New Zealand is very small as discussed earlier in the section 3.8.4.1. The banning of rimu logging on the West Coast has resulted in hardwood timber merchants sourcing timber from other countries, especially species similar to rimu. The environmental pressure and the availability of cheaper wood from Asia have resulted in heightened pressures on the New Zealand furniture industry. This provides opportunities for suppliers of Fijian hardwood species such as Dakua Salusalu (similar to rimu) to meet the needs of rimu customers.

6.3.2 Market Segmentation

Market segmentation for the Fijian hardwood species in New Zealand is important [see Appendix 17]. Detailed population distribution and New Zealand household profiles are

shown in Appendices (18, 19, 20 and 21). Fijian hardwood suppliers working closely with importers and merchants will provide significant benefits in capturing the right customers and servicing them well.

6.3.2 Target Market

According to the survey results the primary customers for importers/merchants of Fijian hardwood products are retailers, upper income households, merchants, DIYers and homeowners. It is important that Fijian hardwood species are promoted in such a way as to bring loyalty in purchasing the products and more importantly high financial return to all stakeholders. Working on a differentiated marketing programme targeting different segments of Fijian hardwood species will reduce the risk of either a mass, or too concentrated a marketing programme. As discussed in the survey analysis, products made from these Fijian hardwoods are flooring, furniture, mouldings, kitchen cabinets, picture and door frames. Appendix 22 indicates the target markets for these Fijian hardwood species are the top end of the market including males and females, with tertiary qualifications and having annual incomes in excess of $70,000. Families are either a single couple, or married with 1-2 dependent children and aged between 35-44 years and 45-54 years. Ethnicity is mostly Pakeha, but also includes Maori and Pacific people living in the urban areas of Auckland, Wellington, Tauranga, Nelson and Christchurch.

1. Moulding Markets

Moulding markets have proved to be the most profitable market especially for certain moulding designs, which are discussed in more detail in pricing strategies. According to Paul Piebanga (PlaceMaker's Timber Department Manager –Riccarton), the company is seeking Fijian hardwood species like Dakua salusalu (Pacific sap rimu) and Yaka (Pacific

heart rimu) as substitutes for New Zealand Rimu in their moulding products, [see Appendix 23 (a)]. Apart from Placemakers, other major distributing centres such as Independent Timber merchants and Bunnings (a recently established Australian retailing store) are willing to distribute hardwood moulding species and are keen to handle Fijian hardwood species.

2. *Furniture Market*

Fijian hardwood species have been used to produce some of the finest handcrafted wood furniture, such as gift boxes, trophies, design furniture, beds and cabinets.

[Appendix 23 (b) shows photographs of trophies made of Damanu sold in the New Zealand markets]. Damanu is also used to manufacture shield trophies for sports awards around the country and sold internationally. Other furniture products include chairs made from Dakua salusalu, [see Appendix 23 (c)]. Craftsmen, who target young couples using their homes as a focus for living and entertaining, with disposable income to spend on nurturing such interests, expressed a preference for antique furniture. Fiji should seriously look into these products, as valuable species like Damanu and Dakua salusalu, which are being wasted in the domestic Fijian markets for construction grades, could be value-added and sold to overseas markets at a premium price. Appendix 23 (d) shows how Kaudamu is well received in the furniture market with an advertisement featuring a famous rugby player, Inga Tuikamala who is using the species to furnish his restaurants.

3. *Flooring markets*

Also, the specialized flooring market in New Zealand should be a Fijian target. There are many different types of flooring products ranging from parquet tiles, thin strips flooring etc. Certain specialized flooring companies servicing the top end of the market use

tropical hardwoods which are sustainably managed. These companies are not willing to purchase lumber from countries that do not produce sustainable forest products proved with a certification certificate. Identifying such high end flooring markets with certified products will promote Fijian hardwoods in the top of the flooring market. Species such as Dakua salusalu, Damanu and Yaka produce beautiful flooring products and have the potential to receive environmental certification.

4. *Picture frames market*

Kauvula and Dakua salusalu are the major species for picture frame markets in both Fiji and international markets. A major manufacturing company of picture frames bought Kauvula rough sawn timber from Fiji, processed it here in New Zealand and then sold the final products back to Fiji. Appendix 24 indicates some of the frame product end-uses for Kauvula species, because of its physical properties as discussed earlier in chapter 3.

Do –It-Yourself (DIY) wood products (also channel) have been identified during the survey as one of the major targets for Fijian hardwood species. Major timber (retailer) outlets like Placemakers are marketing Fijian hardwood species to young couples, single mothers, women and men engaged in repairing or remodelling their homes.

6.3.3 Positioning strategies

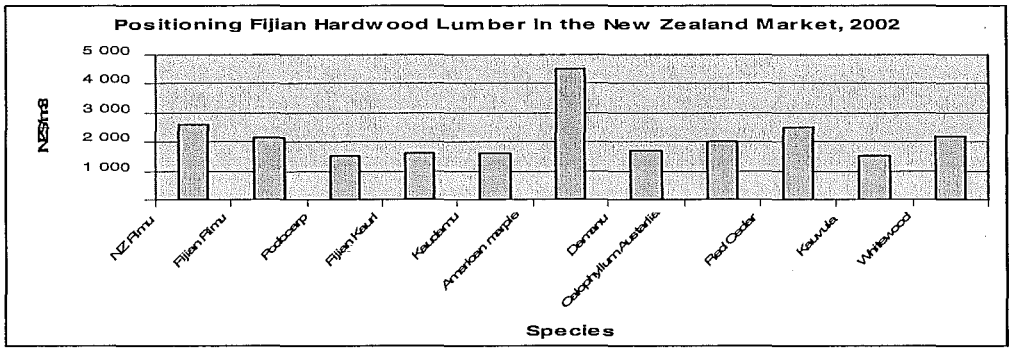
Positioning is a marketing strategy for creating customer preference (the value proposition) as indicated in the next section for Fijian hardwood products, allowing the products to have a competitive advantage over their competitors. Positioning would cement the image of Fijian hardwood products satisfying customers' interests and providing evidence of the firm's marketing intention. It is important that all business

partners from suppliers, manufacturers and retailers depend on each other and their linkage is vitally important as discussed earlier (section 6.2).

Value-Proposition (High Grade Hardwood Lumber)

Fijian hardwood has been positioned as a high-value product in the New Zealand market, because of its similarities with New Zealand Rimu and kauri. These Fijian hardwoods are preferred substitute products for rimu on account of their very stable and durable characteristics. Figure 6.3 indicates that New Zealand Rimu and Pacific Rimu or Dakua salusalu are both sold above NZ$2000/m^3 in New Zealand. This shows the potential of such species to be substitutes for rimu and indicates that customers are willing to pay the price for imported species similar to rimu, like Dakua Salusalu. The prices achieved for the high quality products these species can produce are competitive, and customers do not regret buying products made from these Fijian species.

Figure 6.3: Positioning Fijian Hardwood Lumber in the New Zealand Market, 2002

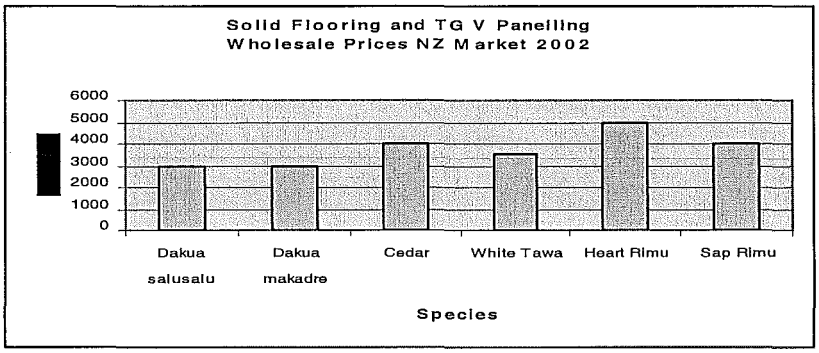


Source: Independent Timber Merchant Price List, 2002.

Fijian hardwoods are valued by Pacific people (especially Fijians in New Zealand) who want to uphold their identity and image using their home country species. The price of these Fijian hardwood products which are similar in quality to rimu is also more competitive, as shown in Figure 6.4. The pricing of these Fijian hardwood species could

be between white tawa and sap rimu in the moulding market since Dakua salusalu and Dakua makadre are being accepted by customers for moulding designs. Providing a good positioning strategy will surely increase the demand for Fijian hardwoods as substitute products for rimu and other native species, resulting in an increase in value per cubic metre.

Figure 6.4: Wholesale pricing for solid flooring and panelling



Source: Independent Timber Merchant Price List

Quality Issue

Fijian hardwood species according to market interviews, are of similar quality to native New Zealand species providing confidence in customers purchasing these products. These species are stable and easily dried to 10-12% moisture content producing beautiful colour products that satisfy customer needs and wants. The durability, stability and easy machining of these species provide quality finished products for furniture, interior lining, flooring, beds, etc. These species need to be positioned as equivalents of New Zealand hardwoods, such as Pacific Sap Rimu (Dakua salusalu), Pacific Heart Rimu (Yaka), Pacific Kauri (Dakua makadre), Pacific Maple (Kaudamu), Pacific Whitewood (Kauvula) and Pacific Calophyllum (Damanu). These similar identifying names make the customers more familiar with the species.

Environmentally Friendly

"An environmentally friendly product is making a difference" could be a slogan for better living in a small Pacific nation and its forest environment using environmentally friendly Fijian hardwood lumber products. The Fijian hardwood products are positioned as being associated with people that belong to environmentally conscious nations like New Zealand; at the same time as they bring positive changes to the lives of people, especially in developing countries like Fiji.

6.3.4 Competitive Advantage

The competitive aim of Fijian hardwood dealers quite simply, is to do a significantly better job of providing what buyers are looking for, thereby enabling the merchants/distributors to earn a competitive advantage and out-compete rivals in the marketplace. The best strategy from the five distinct competitive strategy approaches[58] requires a low-cost provider, a broad differentiation, a best-cost provider, a focus (or market niche) based on lower cost, and a focus (or market niche) based on differentiation.

This is the strategy on which promotion of Fiji hardwood products should be focused, or on a market niche strategy based on concentrating on a narrow buyer segment and out-competing rivals by offering niche members customized attributes that meet their tastes and requirements better than rivals' products.

[58] The classification scheme in an adaptation of one presented in Michael E. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors (New York: Free Press, 1980), chapter 2, especially pp. 35-39 and 44-46.

Fijian hardwood species have been in the New Zealand market for some years now and some customers know the product well as they are almost the same as New Zealand hardwoods. For example, New Zealand the sap rimu colour is similar to Dakua salusalu and heart rimu colour similar to Yaka. The unique colour of rimu makes it difficult for customers to change to other hardwoods but they do prefer substitute species similar to rimu. This also applies to other species like Kaudamu (maple), Dakua makadre (Kauri) and Damanu which have unique colours that attract customers to buy products made from these species. These Fijian species also have exceptional characteristics or properties for machining and finishing that result in very beautiful products for mouldings, furniture, beds, tables, chairs, etc. This allows manufacturers to have confidence in processing these hardwood species because their properties are almost the same as rimu. Fiji is close to New Zealand and this provides an advantage over Asian and other countries supplying tropical hardwoods to New Zealand. Since New Zealand and Fiji have been trading partners for years, their business relationship is an advantage in terms of tariffs charged on imported products, especially machined hardwood products. Differentiating Fijian hardwood products through certifying that the products come from sustainably managed forests may well be a huge advantage. This would distinguish them from other countries supplying tropical hardwoods to New Zealand from forests that are not being sustainably managed. Certification acts as a marketing tool where some customers are willing to pay a premium price for wood products. Certain timber merchants are not willing to purchase wood products that are not sustainably managed. Having formed a multinational strategic analysis and supply chain management technique would position the Fijian hardwood product as a leader in tropical hardwood products destined for the New Zealand market.

6.3.5 Marketing mix strategies

In summary, creating products that provide satisfaction to customers is found through a combination and blending of sets of tools referred to as marketing mix. These sets of marketing tools are product, price, place (distribution), promotion, people, processes and physical evidence[59]

6.3.5.1 Product Strategies

New Zealand is known for its *"green image"* and environmental conscience regarding native logging issues. Providing certified products is likely to have customers perceive these Fijian hardwood products as coming from sustainably well managed forest resources and that suppliers have listened to public concerns over minimizing adverse environmental impact.

- Fijian hardwoods are perceived as *very stable woods* with *unique beautiful natural colour* and *competitive price* compared to other hardwoods.

- Fijian hardwoods are durable and easy to machine to any form of wood product that suits the customer's needs.

6.3.5.2 Distribution channel strategies (Place)

The distribution of Fijian hardwood products that reach the final customers when they need them plays a vital role in their success in the New Zealand marketplace. Identifying the right distributing channel for Fijian hardwood is critical as there is strong competition for tropical hardwoods. To be successful in the New Zealand market, Fijian hardwoods should have merchant wholesalers who provide support to Fijian timber merchants all

[59] Philip K., Thomas H., Paul N., 2002. Marketing Professional Services. Page 9-11

around the country. The key strategy is the provision of a single distribution centre with sales representatives (including Fijians) that fully understand these Fijian hardwood species. This would minimize the cost of referring to suppliers in Fiji and also the cost of training new sales representatives. This distribution centre should be based in Auckland because it is the main city in New Zealand and the population growth is greatest. The centre should distribute a range of products in both rough sawn and finished form to retailers/wholesalers on both islands. The principal distribution centre should service retailing outlets like Placemakers or Independent Timber Merchants who in turn would supply the final customers. It is important that Fijian hardwood products are always available when required and this requires working closely with suppliers, as discussed in an earlier section, so that a product and species are always available in the distributing centre. The distribution centre will supply markets that bring higher returns to stakeholders and service them with higher priority. These would include mouldings, flooring, lining, beds, furniture, etc. The distribution centre should deal directly with manufacturers and retailers on special products, because at the present time Fijian hardwoods are handled by various distributing agents (4 to 5) before reaching the final customers. Reducing the agents would make distribution much more efficient and improve the value-chain for the Fijian sawmillers and forest landowners as well as reducing the cost. If this cost is reduced it could result in increased import prices (margins) benefiting the suppliers and landowners.

6.3.5.3 Promotional strategies

In a highly competitive market for tropical hardwoods it is important that Fijian hardwoods dealers communicate their product message. Promotion is a very important

part of the marketing mix; no-one will rush to buy the product if they do not know that it exists, or if they do not know how it is different from the competitors' product (value proposition) (Mater 1991). As stated earlier by some merchants and also indicated in the survey results, there is a need to provide more promotional information about these Fijian hardwood products. According to Malcolm Scott, the Fijian government needs to produce up to date literature about Fijian hardwoods because the present information is out-of date. The two marketing strategies recommended are the 'pull and push' strategies. Using a "pull strategy" to stimulate customer demand for Fijian hardwoods is important as competition for tropical hardwoods increases in the New Zealand market. Customers should have access to promotional information about the Fijian hardwood products through pamphlets and literature from retailers and manufacturers that process these Fijian hardwood products. Having a clear understanding about the species and the products creates confidence in the customers resulting in increased demand. Using a "push strategy" relies on trade discounts, cooperatives advertising allowances, and similar incentives to motivate wholesalers and retailers to spend time and effort in promoting the Fijian hardwood products to customers. 'Push strategy' is important because of the nature of increasing competition for tropical hardwoods amongst 27 countries, all of which are trying to market their hardwood products in New Zealand. Giving motivation to retailers and wholesalers allows these hardwoods to be promoted vigorously on the market. It is important that both strategies work hand-in-hand in trying to capture the target audience and increase sales of Fijian hardwoods in the market. Since the target audience is the upper income level, the product needs to be differentiated and selecting the right medium of advertising is thus important.

Personal Selling

Personal contact in selling Fijian hardwood products is also necessary in order to build consumer confidence. Personal contact with buyers ignites relationships, creates deeper personal friendships and allows sales personnel to observe the needs of customers and *vice-versa*. Having a Fijian who knows both the species and the New Zealand environment really well should be the best option for the Fijian government if it is seriously looking at winning a greater share of the tropical hardwood market. Giving product presentations and listening to customers about the product applications will boost confidence for all business parties. The present situation indicates that importers are having difficulties in communicating with the suppliers.

Advertising

Advertising in mass communication is directed at a large number of potential customers through television, newspapers, magazines, radio and direct mail. Some of these media are too expensive, like TV, but others including weekly newspapers and special interest magazines, are suitable for target audiences. These media could be used to create awareness about Fijian hardwoods for potential customers and at the same time to target particular niche markets for Fijian hardwood products in New Zealand. Marketing messages under advertising slogans such as *"Sustainable", "Value your Life? Value your Money. Buy High Value Tropical Hardwood Products from Fiji"* are needed.

Media

Selecting advertising media is critical in marketing Fijian hardwoods, because the target audience is small and narrow. The medium used should reach the target customers. Take for example, Maori customers who have their own TV and radio programme, which

could be used in targeting those with higher incomes. Other Pacific people customers also have their own radio programmes that could also be used . Using TV programmes such as Home Shows to promote Fijian hardwood products could reach a DIY audience, for example. Commercials on how to buy furniture and cabinets or homes would concentrate on mouldings and interior finishing timbers.

Direct Mail

Direct Mail provides a good medium for reaching potential users of Fijian hardwood products. Technical literature, printed catalogues of Fijian hardwood products could be posted to either the work place or residential address.

Magazines

Magazines with specialized interests such as female preferences in home design, decoration, business, architectural design and exotic homes should be targeted with these specialised audiences in mind. Women are important in influencing purchasing decisions in New Zealand society and therefore they could be reached by placing advertisements for Fijian hardwood products in magazines like *Women's Day*. Other magazines like *Country Home Ideas*, *Country Inspirations, Home Beautiful, InDesign*, and *ProDesign* provide even better means of advertising Fijian hardwood products.

Trade journals

Special interest trade journals are the preferred medium for promoting Fijian hardwood species and reaching potential trade customers. Advertising in *Furniture Design and Manufacturing* and other such trade journals would be likely to reach more identifiable target markets. Also business papers (published by business organizations) are similar in reaching specialized customers. For example, papers published for the furniture trade or

lumber trading businesses could publish highly relevant information about Fijian hardwood species.

Sales Promotion

Sales promotion is designed to stimulate customer interest and assists dealers and middlemen in making sales with product catalogues. Trade shows are the major form of this kind of sales promotion. Also, state trade missions might well help in promoting Fijian hardwood products in New Zealand. Having trade shows in Fiji or in New Zealand would help the Fijian government to inform its potential customers in New Zealand about their products. Presenting Fijian hardwood products in a trade show would mean not only meeting up with existing customers, but also attracting new customers and so improving the image of companies involved in trading in Fijian hardwood products.

Internet

The internet is becoming a major global marketing medium and also an informational marketing communication tool for companies nationally and globally in promoting products and brands. With increasing numbers of households having internet access and also higher income levels, using the internet to promote these Fijian hardwoods would be beneficial. The internet could provide the following:

- *In-depth information about* Fijian hardwood products and the companies involved in selling the products together with information about different species and their characteristics and where they are being used.
- *Awareness* regarding the utilisation of Fijian hardwood species in New Zealand markets for minimum financial commitment.

- *Creating an Image* that the distributors involved in Fijian hardwoods species are supplying certified wood products and assisting developing countries to better manage their forests;
- *Improved Customer Service* that provides information, answers enquiries, hears complaints and names distributors of Fijian hardwoods who are building business relationships and improving customer service.

This allows the customers to "login" in from their own homes and see the different Fijian hardwood products, thus allowing them enough time to make better decisions. The site should provide all the information needed for customers about wood properties, supplier information, distributors and how to make purchases.

6.3.5.4 Pricing strategies

Pricing Fijian hardwood products is not straightforward because of the availability of alternative hardwood products that are of good quality and are competitively priced. Identifying the right target audience and offering them the right product that is worth paying for should be the main focus of all business partners dealing with trading in Fijian hardwood products. Therefore, the pricing strategies require flexibility, discipline, and judgment to provide for a pricing structure that is competitive, complements the products' positioning, and maximizes sales and profit. The present pricing of rough sawn Fijian hardwood lumber differs between distributors as shown in Figure 6.5. This indicates the inconsistency of the pricing strategy among different merchants and also the type of timber business with which they themselves are engaged. The grades of these species are select and better (FFSE[60] & BETTER) or export grade Fiji Standard with kiln

[60] Fiji-F-Select = No. 1 Dressing

dried rough sawn. The length is from 1.8 metres plus, the thickness from 25 mm -50mm and the width from 100 mm plus. Reducing the price as Company A is currently doing will have a negative effect on customer perception regarding Fijian hardwoods. It is important that these products are seen as adequate substitutes for corresponding New Zealand timbers, and that they are positioned on the market as though they are local products.

Figure 6.5: Wholesale price of Fijian hardwoods amongst major NZ distributors

Species	Company A	Company B	Company C	Company D
Dakua makadre	1377	1889	1551	1770
Dakua Salusalu		2000	1765	2000
Damanu	1294	1550		1440
Kauvula	1202	1533		
Kaudamu	1500		1765	

Source: Price List of Independent Timber Merchants

The retail price of Fijian hardwood mouldings indicates that a species can be sold as a substitute for New Zealand Rimu and at a similar price. Figure 6.6 indicates what value adding is all about by taking rough sawn Fijian timber and converting it into a unique finished product increasing the value and net worth for target customers. This is a good value-chain example. Thus, setting a price closer to New Zealand Rimu and Kauri prices could become the bench-mark for Fijian hardwoods. Such a price increase in add-value products should encourage the Fijian government to lure investors in manufacturing high quality finished products suitable for international markets like New Zealand. This creates local (Fiji) awareness of what their species are worth in the international market if processed to finished products rather than exported as rough sawn timber. A product such as mouldings producing almost 30 different designs is an important market for species like Dakua Salusalu, Dakua makadre and Yaka.

Figure 6.6: Retail price of Fijian hardwood amongst major NZ Retailers (Value-Chain)

	New Zealand Dakua Salusalu Mouldings		
Species	**Average Sell Price NZ**	**Price Per m^3**	**% Increase**
Dakua salusalu **Dakua makadre** **Kaudamu**	Imported Rough Sawn (Green)	950	
	Kiln Dried		
	Wholesale Rough Sawn (Kiln dried)	1765	86%
	Manufacturing & Processing		
	Moulding 1 *(Ranges from$ 800-$8000/$m^3$)* *(21 different profiles)*	3505	99%
	Moulding 2 *(Ranges from $2000-$10000/m^3)* *(8 different profiles)*	4340	146%
	Retailers/Distributor to final customers		
	Moulding 1 *(Ranges from $2600-$15000/m^3)*	11,137	218%
	Moulding 2 *(Ranges from $4000-$14 000/m^3)*	6,937	60%
	TOTAL INCREASE IN VALUE		**608%**
	Product 2		
	Profile 2 (TG & V Panelling)	3174	**80%**
	Flooring and Panelling	2,443	**38%**

Source: Major Retailers Price List for 2002

6.3.6 Branding strategies

In promoting Fijian hardwood products on the New Zealand market, the species or brand name is vitally important in terms of market perception. No research has yet been done regarding the suitability of species names used presently, but customers are content with Pacific Kauri, Pacific Sap Rim, Pacific Maple, Pacific Calophyllum, Pacific Whitewood. "Pacific Hardwoods" brand name has been commonly used to identify these Fijian hardwood products in the marketplace and the name has been received well by the target audience. The importance of these species brand names is to invoke comparisons with New Zealand timber species and also to assist in promoting the products on the Australian market. Since these Fijian hardwood species are dominant in markets in the

Western Pacific, it is important that Fiji suppliers and distributors should own the brand names, because they could be used by other countries to promote their products. Most of these species have similar families in other neighbouring nations and it is vital for the merchants to have ownership of the name.

6.3.7 Packaging strategies

Packaging involves designing and producing the container or wrapper for a product (Kotler & Armstrong, 2000). Packaging could help create a competitive advantage for Fijian hardwood products by instant customer recognition of the brand or company [see Appendix 25]. With high competition in tropical hardwood products in New Zealand, packaging may influence buyers to purchase Fijian hardwood products. According to Kolter & Armstrong (2000)[61] it becomes a "five-second commercial", where it is maybe the seller's last chance of promoting Fiji hardwood products. The timber needs to be well wrapped and dried or in finished product form, and the package must be consistent with the product's advertising, pricing, and distribution. The brand name and certification logo must show out in the packaging which sends the message to the customers that they are buying products from a sustainably managed forest. It is important to know that Fiji is concerned with the protection of the forest environment and is doing something about it, as shown in the logo or branding. Labelling of Fijian hardwood products provides a better identity for these tropical hardwood products. It is important for the suppliers and distributors to provide the right information in labelling these products to avoid any legal action against them through false and misleading advice to the customers.

[61] Kotler & Armstrong. Principle of Marketing, 2000. page 310

6.4 Summary

To successfully provide confidence in customers that the Fijian species will be supplied when needed, all the operations need to work hand-in-hand including strategic management, logistics, and marketing networking. This also benefits all stakeholders. Fijian hardwoods should focus on a narrow target market and service it well, for example, the higher income level. Fijian Sawmillers and Resources owners are significantly disadvantaged by the present marketing framework or networking of these Fijian hardwood species in New Zealand. There are too many intermediaries involved in the process of distribution to the final customer. For example, products are distributed through sub-agents, agents, and then to New Zealand wholesalers/distributors or direct to retailers. Some products are distributed directly from the agents to retailers. Other disadvantages of the present system for suppliers include a low volume of timber for supply; availability only in semi-finished or rough sawn form; timber pricing variability; and lack of finished product information. The proposed marketing framework or model suggests a cooperative method where the benefits are shared amongst suppliers, resource owners, and intermediaries either through financial, marketing, logistics or management benefits. The model is significant for Fijian suppliers because they could supply enough lumber volume and improve timber utilisation through product/market information, branding and timely delivery of products. This could be achieved by establishing a dedicated distributor and distribution facility in Auckland, thus reducing the number of intermediary agents servicing wholesalers, retailers and specialists stores around the country.

Chapter 7: Summary of Findings, Conclusions and Recommendation

7.1 Introduction

This chapter brings together information about Fiji's indigenous forest resources, their harvesting and management practices, the utilization and marketing of various forest products, the results of market surveys, and recommendations for future management and marketing strategies.

7.2 Fiji's Forest Resources and Sustainable Harvests

(i) Fiji is a country of 320 small islands with a total land area of 18 270 square kilometres covering about 993 000 hectares of forests. From this there are about 45 000 hectares of pine plantation and 86 000 hectares of hardwoods; the rest of 862 000 hectares are native forests including dense natural forest, medium dense natural, scattered and mangrove forest.

(ii) The average annual harvest over the last 4 years is about 100 000 m^3 from the pure indigenous forest and 350 000 tonnes of pine logs from plantations in the two main islands, Vanua Levu and Viti Levu. Harvesting of mahogany has just commenced, with 30 000 m^3 a year as the target.

(iii) About 10 m^3/ha of valuable commercial species are recovered from indigenous forest. There are doubts that this level of harvest is sustainable, as there is inadequate forest inventory and resource monitoring being regularly

conducted. International certification of indigenous forest products will never be secured without there being an overall satisfactory planning and control system in place.

(iv) Sufficiently sensitive management planning, controlling and auditing systems are needed for the indigenous and mahogany forest before long-term, sustainable supplies of commercially valuable species can be guaranteed to wood processing plants and to the overseas markets being targeted.

(v) Involvement with stakeholders, particularly landowners, in the sustainable management of the indigenous and mahogany forests is vital to the well-being of the resources.

(vi) Sound wood supply, environmentally safe harvesting, regeneration and tending practices need to be formulated and implemented.

(vii) The availability of mahogany in the marketplace should reduce the extraction of native species resulting in improved environmental impact.

7.3 Fiji's Forest Products and Manufacturing Capability

(i) The main wood-processing and manufacturing of their log intake, capacities and production are carried out by Tropik Wood Industries Limited, which manufacture and process pine logs into wood chips, sawn timber, and added value products (treated decking, post & poles, weatherboards). The two plywood mills are located in Vanua Levu owned by Fiji Forest Industries and Valebasoga Tropikboard. Both mills produce sawn timber, veneer, plywood, blockboard, and other added value products like flooring, decking and

mouldings for the local markets. There are about 25 indigenous sawmills producing lumber both in the local and export markets.

(ii) As exporting logs is not allowed, all forest export products must be in processed form. During the last five years, the country has exported the following indigenous lumber products; sawn timber 47 500 m^3 valued at FJ$39 million, with New Zealand (43%), Tahiti (16%), Tuvalu (8%), New Caledonia (6%) and Western Samoa (5%) the major markets. Veneer amounting to 15 000 m^3 valued at FJ$15 million, with USA (57%), Australia (19%), New Zealand (14%), and Japan (9%), the major markets. Plywood amounted to 22 000 m^3 valued at FJ$26 million, with Australia (36%), New Zealand (21%), Tahiti (9%) and Vanuatu (6%) the major markets. Blockboard amounting to 950 m^3 valued at FJ$1 million, with Tonga (43%), Tahiti (33%) and New Zealand (11%) the major markets while mouldings amounted 600 m^3 earned at FJ$600,000, with New Zealand (75%) and Western Samoa (1%) the major markets.

(iii) The forest products exports are not certified as sustainably derived. There is still no actual international consensus over the reality of certification, but this study has suggested that Fiji's exports to countries like Australia and New Zealand may well offer a competitive edge. For example, kiln dried rough sawn lumber at present valued at FJ$1,000 could produce furniture worth FJ$3,000 to FJ$6,000 in the export markets.

(iv) Annual Reports of the Utilization Division, Nasinu from 1997 to 2001 reveal major inefficiencies in processing and manufacturing. There is a great

opportunity to add value to Fiji's export products much over and above what is presently being captured. The full potential will only be realized from having coordinated resource, manufacturing and marketing management systems in place.

7.4 Market Survey

(i) Market Surveys for this study were focused on New Zealand importers and manufacturers of Fijian hardwoods species.

(ii) New Zealand merchants fully support the need to purchase wood that comes from sustainably managed forests and certified products.

(iii) Further surveys of attitudes of merchants in countries such as U.S.A. and Australia are needed to gauge the potential to meet importers' niche market demand.

(iv) New Zealand merchants indicated that the preferred business strategy is buying manufactured components from Fiji and to have finished products processed in New Zealand.

(v) There appear to be few problems in finding agents to distribute Fijian hardwood species within New Zealand.

(vi) There is no firm indication that New Zealand importers/manufacturers wish to operate in or transfer processing plants to Fiji.

(vii) Fiji is still regarded apparently as a high risk country in which to operate and customers perceived products from the country as low value compared to other developed countries like Australia, Malaysia, and the United States of America.

(viii) Merchants prefer to import lumber semi-finished and process further in New Zealand but half the merchants surveyed are willing to process finished products in Fiji.

(ix) A merger strategy, in which the Fiji government encourages overseas investments to create more processing job opportunities may be the best option, but is viable commercially only if the government of the country is politically stable.

(x) Market surveys also revealed that the species and products preferred by New Zealand importers were as follows: Dakua salusalu (most preferred specie), Fijian Kauri, Damanu, Kaudamu and Kauvula. The products range from flooring, architraves, door/door frames, lining, beds, table tops, slice veneer, decorative objects, etc. (as discussed in chapter 6).

(xi) Customers preferred these species due to their stability, technical/quality, visual/appearance and competitive price. Some of the physical properties of these species are similar to some of the New Zealand's native species such as Dakua salusalu and Sap rimu.

(xii) There is a desperate need for more information about the Fijian hardwood species through some up to-date literature for customers to know more about these species and create more demand.

(xiii) There is no doubt that Fiji needs to export finished products rather than semi-finished products because there is a huge mark-up in the price of finished products when reaching the final customers.

(xiv) New Zealand customers are concerned about environment issues and want timber products produced from sustainable forest management for their public image, targeting niche markets, and as the responsible thing to do. Customers are willing to pay a high price for the products if certified.

(xv) There is no doubt that Auckland is the best distributing centre for the Fijian hardwoods species because of its population density and the demand is higher compared to other regions and cities.

7.5 Integration of Marketing-Logistic Functions

(i) Fiji lacks consistency in supplying their lumber products into the New Zealand markets which results from lack of supply chain competence, process integration and information sharing between suppliers, importers and manufacturers. This creates a negative image of the industry and misses great opportunities in the international markets.

(ii) There is a great need to integrate both marketing and logistic functions in the industry to successfully compete in New Zealand markets. Marketing should focus on demand creation through product, price, and promotion mixes. Logistics should focus on demand satisfaction, that is, getting the right product, to the right place, in the right time. Thoroughly understanding the two concepts will create competitive advantages for Fijian hardwoods species in the New Zealand market resulting in increased demand and sustainable business environment in the long-term.

(iii) Procurement creates a good marketing network for Fiji hardwood species in New Zealand by meeting with the suppliers, talking about strategic issues and

building relationships whereby supplier and customer are working together towards a win-win situation.

7.6 Marketing of Fijian Hardwoods in New Zealand

(i) Surveys have shown that there is a market for Fijian hardwoods in New Zealand with its strong economy and stable political situation.

(ii) Fijian hardwoods are landing in the hands of more affluent New Zealanders who want to live a differentiated life-style from the rest of the population.

(iii) Much promotional work is still needed to demonstrate the full potential for Fijian hardwood products in New Zealand markets, by identifying the right product that brings maximum return to individual species. For example, Dakua salusalu (Pacific Sap Rimu) is in high demand in New Zealand therefore, producing mouldings, lining and flooring provides better financial returns than the production of beds.

(iv) A marketing plan framework through a multinational strategic alliance may be needed and a partnership of timber suppliers from Fiji with merchants, competitors, manufacturers, and customers from New Zealand.

(v) Users of Fijian hardwood species are customers at the top end of the market. These are customers with income above NZ$70,000, living in urban areas with a double income and one or two families in the household.

(vi) The current lack of commitment by Fijian suppliers has resulted in New Zealand merchants seeking substitute products from Papua New Guinea, Australia and other Western Pacific Nations which are also offering high quality and competitively priced timber products.

(vii) The number of distributing intermediaries for Fijian hardwood species in New Zealand needs to be reduced and centralized in Auckland to reduce costs.

(viii) Fijian species have wood properties eminently suitable for current product development in the New Zealand market.

(ix) Updated information/literature about the Fiji hardwood species is vitally important in providing more information about the species and products made from these species. This provides more awareness about the species to customers creating demand for both existing and new customers.

7.7 Marketing Recommendations

1) There is great potential for 10 major Fijian Indigenous hardwood species in the New Zealand market. Over the past five years the five species (Kaudamu, Kauvula, Fijian Kauri, Dakua salusalu and Damanu) exported to New Zealand were about 27 000 m^3 of wood commodities valued at FJD23.2 million with annual averages of 5 300 m^3 and FJD4.7 million dollars. This indicates the need and commitment for the two countries to closely work together in providing sustainable forest management of indigenous forest in a developing nation like Fiji. The present practice indicated about 45 native species being extracted from the native forest and 22 of these species are entering the export markets. This has resulted in more exploitation of these native species and a lack of control of the environmental impact. Producing timber products from sustainably managed forest recognizes the ecological limits so that a healthy functioning forest ecosystem is maintained in perpetuity, both for the nation and as an economic resource for the Fijian landowners.

2) Providing certified forest products plays a role in securing the future of the forest industry in Fiji. As foresters are involved so much in the science behind our forest management and the environmental worth of the product but lose the politics where public opinion is important. Society has greatly influenced the way the product is presented and certified products create a positive image about the Country of Origin of the product which influences the consumers' perceptions in purchasing Fijian hardwood products. This leads to the final customers or consumers holding a positive image about the country of origin providing competitive advantages over other countries supplying hardwood into New Zealand. Sustainable forest management is an expensive exercise and can only be achieved if the right value is charged on the products or else the program will be unsuccessful.
3) Timber utilization in small nations like Fiji is vitally important as the rate of deforestation globally is increasing at an alarming rate. Investments in downstream processing will boost the annual product value to double or triple the amount without changing the current timber harvesting levels. Product and market development of "High Value Timber Products" in the country of origin like Fiji will not only triple values but also create employment opportunities. Producing high value products from five major species is a strong argument to reduce the number of native species extracted to about 10 major species. It is vital to have domestic and export markets for native species before extraction. A reduction from 45 native species extracted at the present time to 10 species will surely contribute to a more healthy natural forest management program. As

discussed in the previous section that price will triple or increase six times if timber is exported in finished products. Take for example Dakua salusalu which is a species in-demand in New Zealand and should not be sold or leave the country rough sawn. Producing final products of the right quality and delivering at the time when needed should be the main focus of the government. This could be achieved through strong partnership between the government, private sectors, local government and landowners in forming a Wood Processing Strategic Committee. The committee has to ensure the long-term sustainability of the forestry industry through value-added processing.

4) Identification of a better distributing and marketing networking is paramount for the Fijian products to be successfully marketed in New Zealand. The annual volume of imported timber is small and the suppliers are inconsistent in meeting customers' demands, causing a lot of frustrations to merchants. Fiji should have a distributing centre in Auckland which deals entirely with the promotion and distribution of Fijian Species throughout the country. The centre should also work closely with the suppliers, merchants or manufacturers regarding customer needs and how to fulfil those needs.

5) Success in the multi-national strategic alliance, supply chain and value chain depends entirely on the business strategy that will be implemented. Importers and merchants are willing to do business in Fiji through mergers/joint ventures, buying finished products and acted as a distributing agent. Joint ventures/mergers provide greater opportunities for the Fijian hardwood products to be highly recognized in New Zealand. This will depend entirely on the willingness and

recognition of a particular company which has a strong brand name to operate in Fiji. Such penetration strategy will provide an advantage to all stakeholders resulting in a win-win situation.

6) The success of Fijian hardwood products in the New Zealand marketplace must be uniquely positioned and possess organizations and business processes that continually create customer advantage. If the Fiji tropical hardwoods want to be among the market leaders then they have no choice but to develop close relationships with their supply chain business partners, as the scope of competition for tropical hardwood markets widen in New Zealand. Fiji suppliers realize that the New Zealand market is a quality market and what they care about is that the product possesses specified quality, followed by quality service with a competitive price where the product is differentiated from other wood products like *Pinus radiata.*

7) Niche Markets. The Fiji government/suppliers should realize that their native hardwood products are landing in the hands of wealthier New Zealanders living a differentiated life-style from the rest of the population which consumes a lot of pine wood products. Paying top dollar for the products means creating huge advantages and challenges for the suppliers in delivering the right products, at the right time with the right quality.

8) Competitive Strategy. To have a competitive advantage Fiji hardwood dealers (Fiji suppliers and new importers/merchants) should focus on a market niche strategy based on a narrow buyer segment and competing rivals by offering niche

members customised attributes that meet their tastes and requirements better than rivals' products.

9) The availability of Fiji plantation hardwood (mahogany) will act as a substitute species for native hardwoods in the future, reducing a lot of pressure on native hardwood extraction. It is important that Fiji mahogany is well presented in the marketplace both locally and internationally since the product is new and customers know nothing about the product.

10) Due to past political instability in the country (high risk) most of the importers are willing to buy at a lower rate (rough sawn-timber) and stock them in New Zealand in case unrest emerges again. This is costing Fiji a lot financially as these valuable species could be manufactured in the country of origin and shipped as finished products overseas.

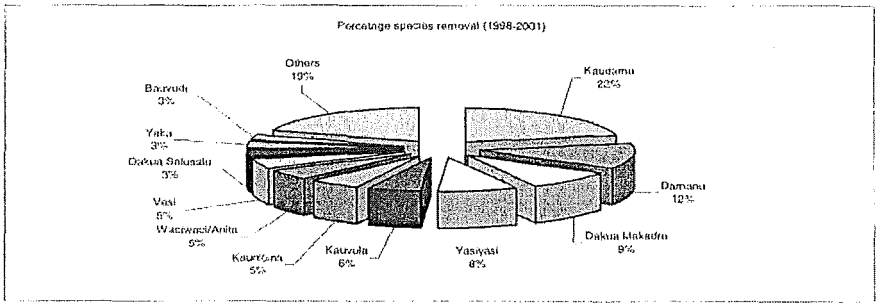
11) There is a need for the Fiji Government to seriously review the utilization of their forest species both locally and internationally. This could only be done by having a government organisation that analyse the data including volume extracted, sawmill production, local consumption and export volume, by countries of destination, plus the average price. Marketing research should be carried out and identifying market destinations by country before exporting these high valued products internationally.

Appendices

Appendix 1: Volume (m^3) by species extracted from the three Divisions (1998-2002)

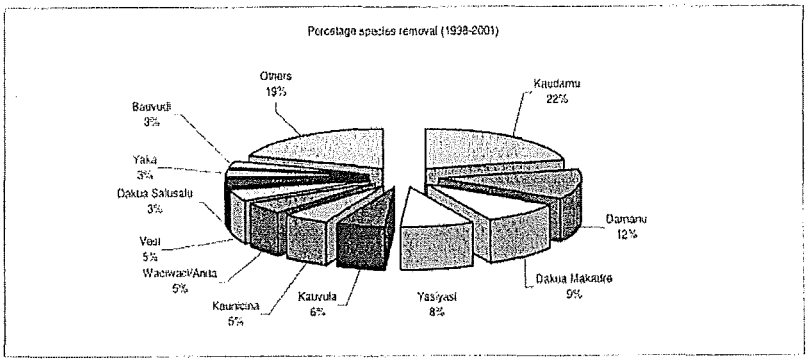
1(a): Volume (m^3) by species for Northern Division

Division	Species	1998	1999	2000	2001	Total	Av.	% removal
	Kaudamu	6745	11105	13206	15667	48724	12181	21.00%
	Damanu	4814	4196	12974	6041	28025	7006	12.08%
	Others	4360	2654	8117	7319	22450	5612	9.68%
	Dakua Makadre	3799	5115	5140	6999	21052	5263	9.07%
	Yasiyasi	4695	4599	5213	4294	18801	4700	8.10%
	Kauvula	4101	4344	5500	3286	17232	4308	7.43%
	Kaunicina	2878	2985	2953	2962	11778	2944	5.08%
	Waciwaci/Anita	431	708	5358	5193	11690	2922	5.04%
	Vesi	2011	2327	3056	3417	10812	2703	4.66%
	Dakua Salusalu	2378	1404	1872	2121	7772	1943	3.35%
	Yaka	2910	1930	961	970	6771	1693	2.92%
	Bauvudi	1508	1565	1438	1422	5934	1483	2.56%
	Rosarosa	1403	1377	1305	1354	5439	1360	2.34%
	Sasaulra	430	821	1820	1687	4757	1189	2.05%
	Buabua	523	899	749	184	2354	589	1.01%
	Sarosaro	350	430	743	269	1793	448	0.77%
	Tivi	147	367	567	550	1631	408	0.70%
	Valvai-ni-Veikau	257	347	222	485	1310	328	0.56%
	Laubu	278	204	254	188	924	231	0.40%
	Sacau	50	220	235	352	857	214	0.37%
	Dabi	92	71	149	40	351	88	0.15%
	Moivi	1	1	266	18	287	72	0.12%
	Koka	46	3	187	14	250	63	0.11%
	Kuasi	32	52	53	98	235	59	0.10%
	Doi	39	51	55	60	205	51	0.09%
	Amunu	4	9	50	100	164	41	0.07%
	Mavota	54	44	36	26	160	40	0.07%
	Kaucauti	6	78	45	15	144	36	0.06%
	Nawanawa	2	16	5	2	24	6	0.01%
	Dogo	1	4	14	2	21	5	0.01%
	Vuga		14	3		17	4	0.01%
	Sa		0	11	2	13	3	0.01%
	Qumu	7	1	2	1	10	3	0.00%
	Kaoiga/Lilidi			3	5	9	2	0.00%
	Vutu	2		5		7	2	0.00%
	Uko/Damanu ni yagaga				7	7	2	0.00%
	Dilo		2	2	2	6	2	0.00%
	Velau	1			3	5	1	0.00%
	Masiratu		3	1		4	1	0.00%
	Yasimoli				3	3	1	0.00%
	Sagali		1			1	0	0.00%
							0	
	Total	46351	47945	72572	65158	232026	58007	100.0%



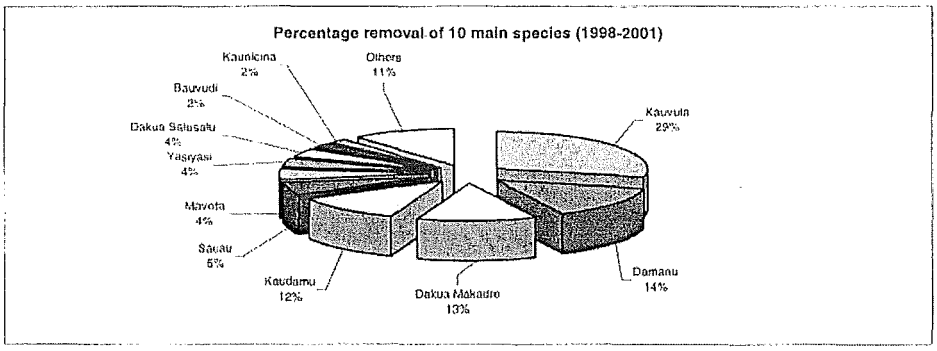
1(b): Volume (m^3) by species for Southern Division

Division	Species	1998	1999	2000	2001	Total	Av.	% removal
	Kaudamu	8745	11105	13208	15667	48724	12181	21.00%
	Damanu	4814	4196	12974	6041	28025	7006	12.08%
	Others	4360	2654	8117	7319	22450	5612	9.68%
	Dakua Makadre	3799	5115	5140	6999	21052	5263	9.07%
	Yasiyasi	4695	4599	5213	4294	18801	4700	8.10%
	Kauvula	4101	4344	5500	3286	17232	4308	7.43%
	Kaunicina	2876	2985	2953	2962	11776	2944	5.08%
	Waciwaci/Anita	431	708	5358	5193	11690	2922	5.04%
	Vesi	2011	2327	3056	3417	10812	2703	4.66%
	Dakua Salusalu	2376	1404	1872	2121	7772	1943	3.35%
	Yaka	2910	1930	961	970	6771	1693	2.92%
	Bauvudi	1508	1565	1438	1422	5934	1483	2.56%
	Rosarosa	1403	1377	1305	1354	5439	1360	2.34%
	Sasaulra	430	821	1820	1687	4757	1189	2.05%
	Buabua	523	899	749	184	2354	589	1.01%
	Sarosaro	350	430	743	269	1793	448	0.77%
	Tivi	147	367	567	550	1631	408	0.70%
	Vaivai-ni-Veikau	257	347	222	485	1310	328	0.56%
	Laubu	278	204	254	188	924	231	0.40%
	Sacau	50	220	235	352	857	214	0.37%
	Dabi	92	71	149	40	351	88	0.15%
	Moivi	1	1	266	18	287	72	0.12%
	Koka	46	3	187	14	250	63	0.11%
	Kuasi	32	52	53	98	235	59	0.10%
	Doi	39	51	55	60	205	51	0.09%
	Amunu	4	9	50	100	164	41	0.07%
	Mavota	54	44	36	26	160	40	0.07%
	Kauceuti	6	78	45	15	144	36	0.06%
	Nawanawa	2	16	5	2	24	6	0.01%
	Dogo	1	4	14	2	21	5	0.01%
	Vuga		14	3		17	4	0.01%
	Sa		0	11	2	13	3	0.01%
	Oumu	7	1	2	1	10	3	0.00%
	Kasiga/Lilidi			3	5	9	2	0.00%
	Vutu	2		5		7	2	0.00%
	Uko/Damanu ni yagaga				7	7	2	0.00%
	Dilo		2	2	2	6	2	0.00%
	Velau	1			3	5	1	0.00%
	Masiratu		3	1		4	1	0.00%
	Yasimoli				3	3	1	0.00%
	Sagali		1			1	0	0.00%
							0	
	Total	46351	47945	72572	65158	232026	58007	100.0%



1©: Volume (m^3) by species for Western Division

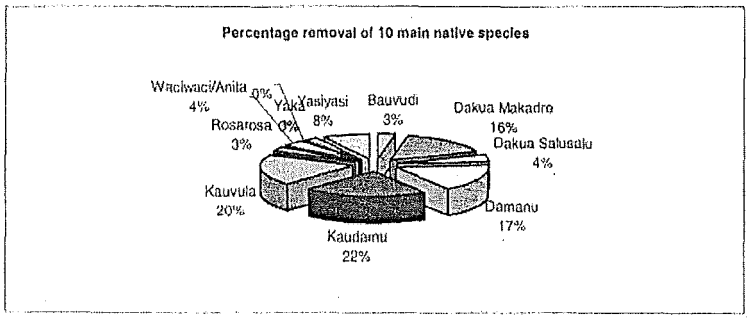
Species	1998	1999	2000	2001	Total	Av.	%
Kauvula	8639	7057	6581	8030	30306	7576	28.73%
Damanu	3575	2956	3955	4440	14926	3731	14.15%
Dakua Makadre	4176	2317	3115	3937	13546	3386	12.84%
Kaudamu	3258	3181	2636	3240	12315	3079	11.67%
Sacau	1086	905	1480	2146	5617	1404	5.32%
Mavota	1611	1397	1720	1	4729	1182	4.48%
Yasiyasi	1089	994	1083	1107	4273	1068	4.05%
Dakua Salusalu	695	857	836	1385	3774	944	3.58%
Bauvudi	640	493	560	619	2311	578	2.19%
Kaunicina	441	448	586	668	2143	536	2.03%
Others	567	702	636	1	1906	477	1.81%
Molvi	32	69	28	1750	1879	470	1.78%
Rosarosa	718	482	479	3	1682	421	1.59%
Pine-Private			113	930	1043	261	0.99%
Laubu	232	220	226	277	955	239	0.91%
Sa		1		800	801	200	0.76%
Mako	1	20	4	730	754	189	0.71%
Amunu	215	64	79	188	547	137	0.52%
Vaivai-ni-Veikau	58	53	78	247	436	109	0.41%
Tivi	33	126	138	37	334	83	0.32%
Yaka	47	15	37	153	253	63	0.24%
Velau		1		155	156	39	0.15%
Mahogany-Private			36	86	122	31	0.12%
Sasaulra	59	21	24	9	113	28	0.11%
Buabua	3	34	48	9	94	24	0.09%
Kauceuti	8	7	37	13	65	16	0.06%
Kuasi	22	6	21	12	61	15	0.06%
Waciwaci/Anita	1	12	17	30	60	15	0.06%
Nawanawa	1	2		47	50	13	0.05%
Koka	22	4	8	12	45	11	0.04%
Masiratu	11	13	8	5	37	9	0.04%
Qumu	2		1	28	31	8	0.03%
Vutu	1	7	20	3	30	7	0.03%
Sarosaro		11	16	3	29	7	0.03%
Vuga	6	5		7	17	4	0.02%
Dabi		0	8	7	16	4	0.02%
Vesi		5	4	6	14	4	0.01%
Dogo	3		2	6	11	3	0.01%
Rosawa	1	2	4	1	9	2	0.01%
Dilo	1	3	2	1	7	2	0.01%
Kasiga/Lilidi				0	0	0	0.00%
Total	**27255**	**22489**	**24627**	**31128**	**105498**	**21100**	**100.00%**



Appendix 2: Extracted volumes of various Fijian Native Species for the 1998-2001 period (m^3)

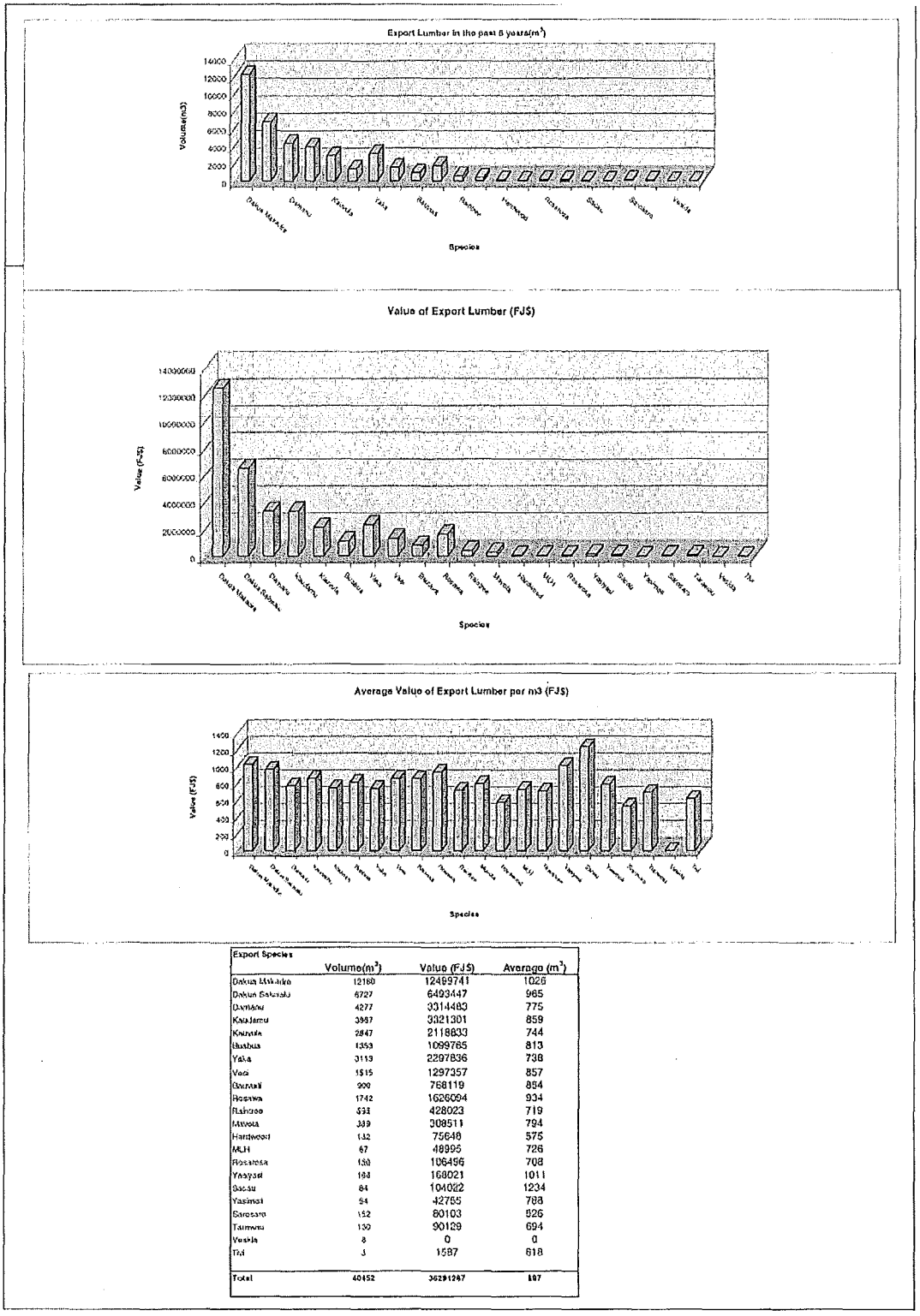
							4	
		1998	1999	2000	2001	Total	Average	% removal
Species	Scientific Names							
Amiinu	*Dacrycarpus imbricatus*	431	235	253	512	1432	358.0	0.37%
Bauvudi	*Palaquium porphyreum*	2252	2192	2122	2363	8929	2232.3	2.31%
Buabua	*Fagraea gracilipes*	528	933	799	195	2456	613.9	0.64%
Dabi	*Xylocarpus granatum*	119	119	98	173	509	127.3	0.13%
Dakua Makadre	*Agathis vitiensis*	10593	10888	10922	15569	47972	11992.9	12.43%
Dakua Salusalu	*Decussocarpus vitiensis*	3461	2767	2952	4003	13184	3296.9	3.42%
Damanu	*Calophyllum vitiense*	9690	8520	18150	13184	49543	12385.9	12.84%
Dilo	*Calophyllum inophyllum*	2	19	7	7	35	8.8	0.01%
Dogo	*Bruguiera gymnorhiza*	16	5	17	9	47	11.8	0.01%
Doi	*Alphitonia zizyphoides*	39	53	55	61	207	51.8	0.05%
Kasiga/Lildi	*Litsea pickeringii*			3	6	9	2.3	0.00%
Kauceuti	*Turrilia vitiensis*	29	93	95	80	298	74.1	0.08%
Kaudamu	*Myristica castaneifolia*	12557	15154	16605	20537	64853	16213.2	16.80%
Kaunicina	*Canarium vitiense*	3410	3588	3567	3698	14264	3565.9	3.70%
Kauvula	*Endospermum macrophyllum*	14324	13811	15079	15622	58836	14708.9	15.24%
Koka	*Bischofia javanica*	128	44	234	271	676	169.0	0.18%
Kuasi	*Podocarpus neriifolius*	91	72	88	224	475	118.8	0.12%
Laubu	*Garcinia myrtiflora*	818	507	572	529	2427	606.7	0.63%
Mako	*Trichospermum calyculatum*	5	25	19	28	77	19.2	0.02%
Masiratu	*Degeneria vitiensis*	23	22	15	31	92	22.9	0.02%
Mavola	*Gonystylus punctatus*	1918	1724	2075	2163	7880	1970.1	2.04%
Moivi	*Kingiodendron platycarpum*	37	71	294	133	534	133.5	0.14%
Nawanawa	*Not available*	4	19	5	8	35	8.8	0.01%
Others	*Not available*	5255	3807	9234	8881	27176	6794.0	7.04%
Qumu	*Acacia richii*	14	1	3	4	22	5.5	0.01%
Rosarosa	*Hantiera ornithocephala*	2255	1939	1837	2348	8380	2095.0	2.17%
Rosawa	*Gmelina vitiensis*	465	788	623	2771	4647	1161.7	1.20%
Sa	*Parinari insularum*	1	2	11	2	16	3.9	0.00%
Sacau	*Palaquium homoi*	1176	1135	1732	392	4434	1108.5	1.15%
Sagali	*Lumnitzera littorea*		1		3	4	1.0	0.00%
Sarosaro	*Planchonella garberi*	364	444	760	279	1846	461.6	0.48%
Sasaulra	*Dysoxylum richii*	628	1213	2068	1774	5684	1420.9	1.47%
Tivi	*Terminalia pterocarpa*	186	515	718	849	2268	567.0	0.59%
Uko/Damanu ni Yaqana	*Buchanania vitiensis*				7	7	1.8	0.00%
Vaivai Ni Veikau	*Serianthes melanesica*	356	416	379	649	1802	450.5	0.47%
Velau	*Gymnostoma vitiensis*	2	1		3	7	1.7	0.00%
Vuga	*Geissois ternata*	8	30	3	7	48	12.0	0.01%
Vesi	*Intsia bijuya*	2011	2332	3072	3593	11008	2752.0	2.85%
Vutu	*Barringtonia asiatica*	3	7	26	3	38	9.5	0.01%
Waciwaci/Anita	*Sterculia vitiensis*	432	722	5378	5256	11788	2947.0	3.05%
Yaka	*Dacrydium nidulum*	3162	2001	1126	1446	7736	1933.9	2.00%
Yasimoli	*Cleistocalyx decussatus*				3	3	0.8	0.00%
Yasiyasi	*Cleistocalyx eugenioides*	6069	5838	6565	5783	24255	6063.6	6.28%
Total		**82864**	**82053**	**107562**	**113457**	**385936**		

Source: Management Division (Colo-i-Suva, Fiji).



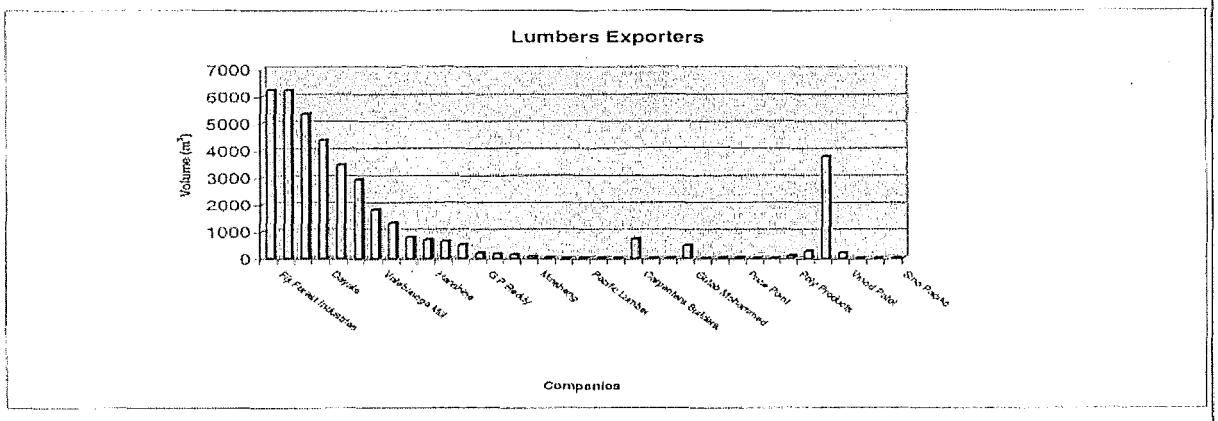
Appendix 3: Lumber Export (1998-2002)

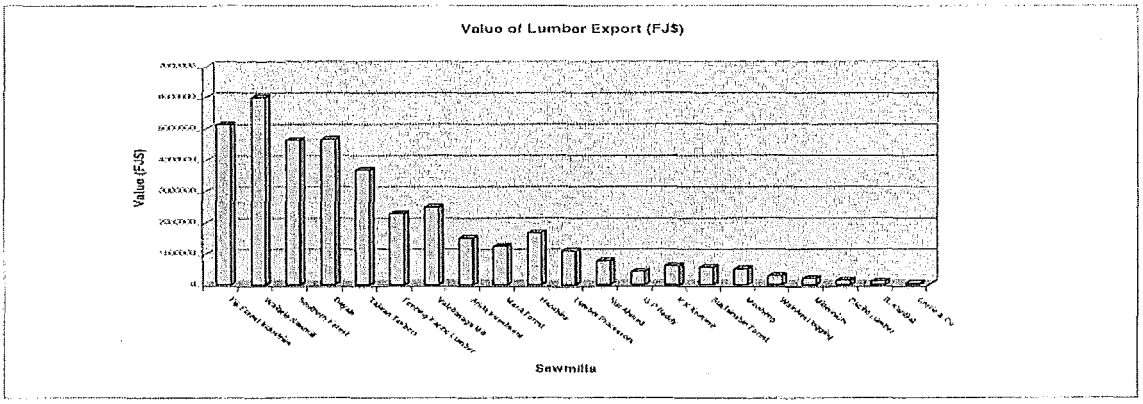
3 (a): Export Lumber by Species (m^3) and Value (FJD)



Export Species	Volume(m^3)	Value (FJ$)	Average (m^3)
Dakua Makaka	12160	12499741	1026
Dakua Sakaka	6727	6493447	965
Dvriaqu	4277	3314483	775
Kaidamu	3867	3321301	859
Kaunda	2847	2118833	744
Buabua	1353	1099765	813
Yaka	3113	2297836	738
Vea	1515	1297357	857
Dauvadi	900	768119	854
Rosawa	1742	1626094	934
Rainoso	593	428023	719
Mavoa	389	308511	794
Hardwood	132	75648	575
MLH	67	48995	726
Rosanasa	150	106496	708
Yasayasi	184	168021	1011
Dacau	84	104022	1234
Yasimasi	54	42765	788
Sarosaro	152	80103	926
Tairwaru	130	90129	694
Veaka	8	0	0
Tvi	3	1587	618
Total	40452	36291267	897

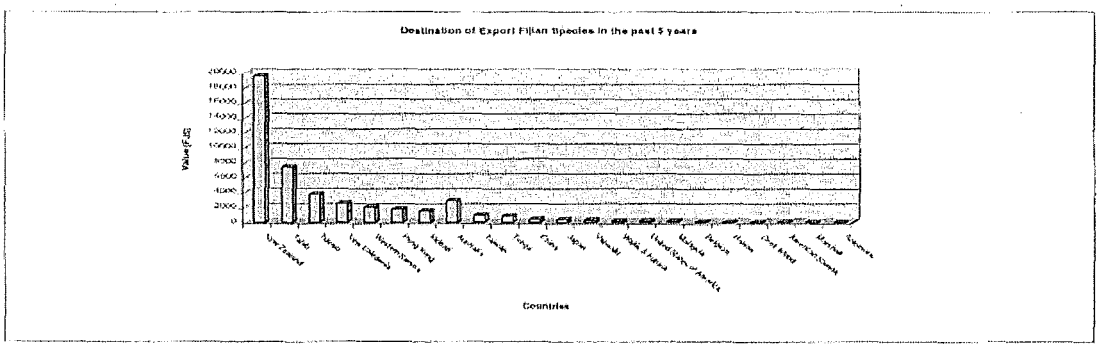
3 (b): Exporter of Lumber Products

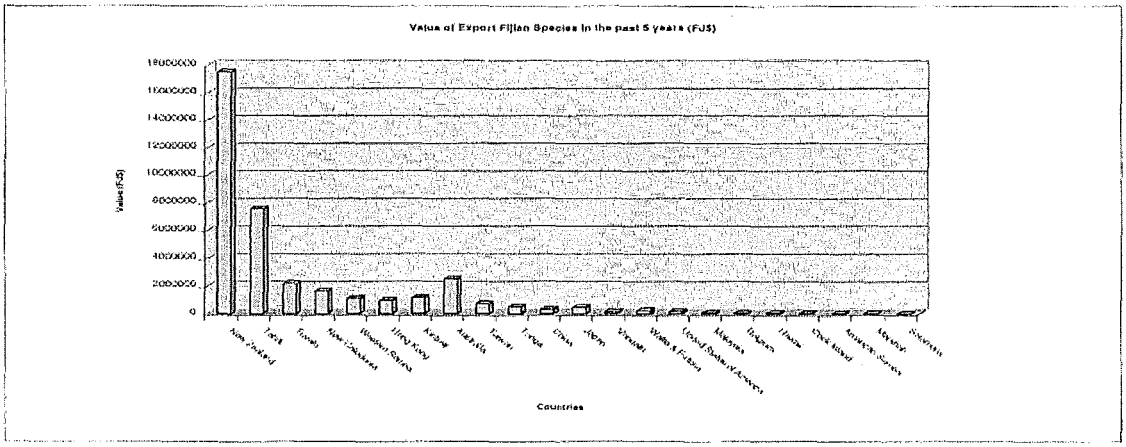


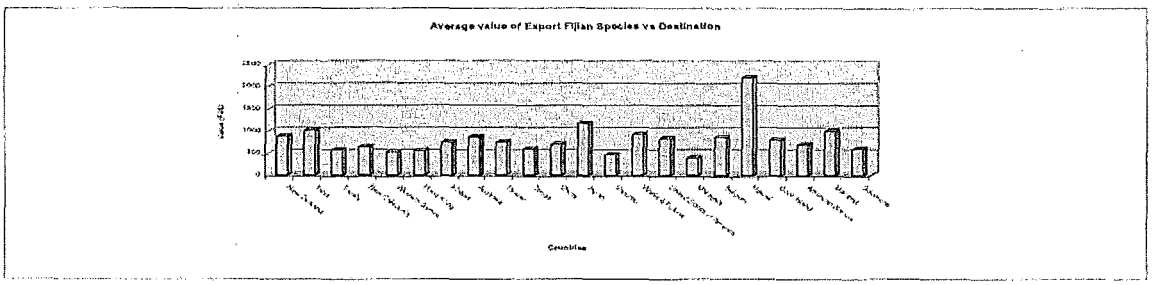


Companies	Mills	Total volum	Total Value (FJ$)	Av. Volume	Average (m3)
Fiji Forest Industries	Sawmill	6241	5127811	1248	822
Waigolo Sawmill	Sawmill	6227	6001898	1245	964
Southern Forest	Sawmill	5353	4631669	1071	865
Dayals	Sawmill	4382	4662930	876	1064
Taiwan Timber	Sawmill	3466	3687047	693	1064
Fanling Pacific Lumber	Sawmill	2934	2297911	587	783
Valebasoga Mill	Sawmill	1809	2494995	362	1379
Arula Investment	Sawmill	1315	1509942	263	1148
Mana Forest	Sawmill	786	1240945	157	1580
Narsibhu	Sawmill	698	1672263	140	2396
Lumber Processors	Sawmill	631	1097056	126	1740
Nur Ahmed	Sawmill	488	787354	98	1613
G P Reddy	Sawmill	207	437887	41	2116
K K Kemave	Sawmill	177	616959	35	3485
Sustainable Forest	Sawmill	145	573600	29	3939
Minahong	Sawmill	79	516397	16	6518
Wainivoa logging	Sawmill	30	289451	6	9648
Millennium	Sawmill	20	211765	6	7401
Pacific Lumber	Sawmill	22	148953	4	6826
B Kanilal	Timber Merchant	6	113234	1	20156
Corna & Co.	Timber Merchant	23	55553	5	2417
Carpenters Builders	Timber Merchant	721	62275	144	86
Ba Industry	Timber Merchant	1	26393	0	20733
Ghare Industry	Timber Merchant	1	101112	0	101112
Gulab Mohammed	Timber Merchant	461	17690	92	38
H P Kaasbra	Timber Merchant	1	13374	0	12125
Linderia	Timber Merchant	15	10037	3	660
Price Point	Timber Merchant	29	8583	6	299
Mahlijahar	Timber Merchant	1	8360	0	7346
Peter Lee	Timber Merchant	1	7450	0	10348
Poly Products	Timber Merchant	96	8661	19	91
RC Manubhai	Timber Merchant	268	2753	54	10
South Seas Timber Traders(S	Timber Merchant	3770	925	754	0
Vinod Patel	Timber Merchant	204	751	41	4
Rups Investment	Timber Merchant	8	1467	2	183
Sunsouth	Timber Merchant	16	769	3	49
Sino Pacific	Timber Merchant	14	1200	3	89

3 ©: Destination of Export Lumber (m^3) and Value (FJD)



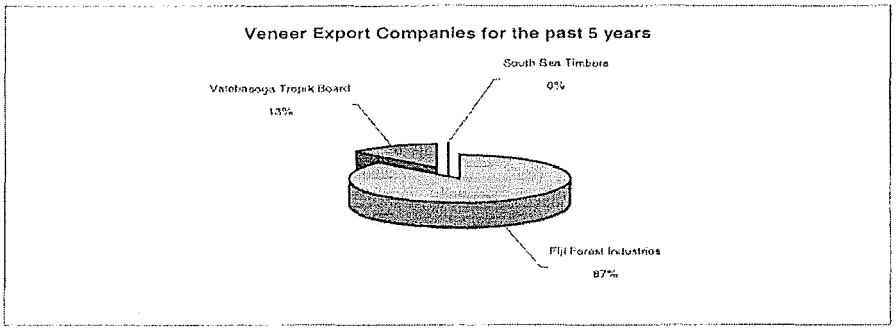


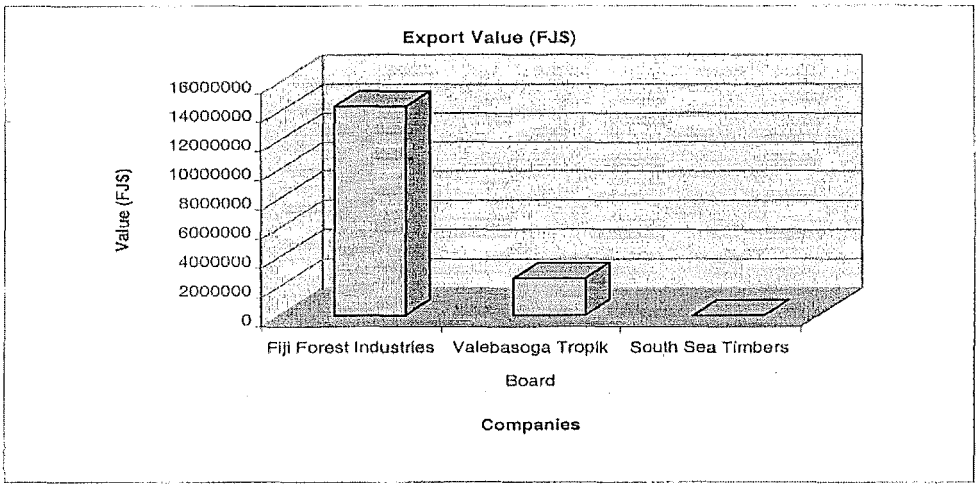


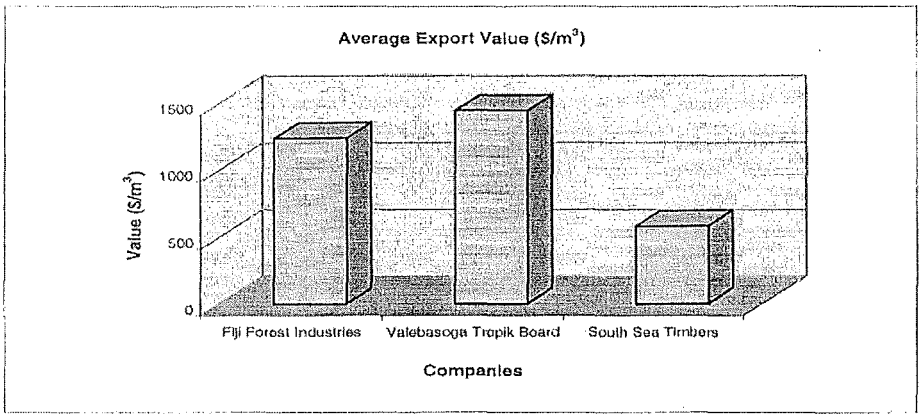
Countries	Vol.(m^3)	Value(FJ$)	Average Value(FJ$)
New Zealand	19644	17516893	892
Tahiti	7301	7560660	1026
Tuvalu	3779	2185506	578
New Caledonia	2610	1631156	650
Western Samoa	2050	1098701	533
Hong Kong	1727	974960	565
Kiribati	1545	1184087	754
Australia	3486	2511073	870
Taiwan	993	725659	754
Tonga	840	606509	801
China	440	315004	717
Japan	456	482102	1183
Vanuatu	343	160255	467
Wallis & Futuna	263	243600	926
United States of America	253	105057	830
Malaysia	177	70948	401
Belgium	60	52003	872
Hawaii	31	67661	2210
Cook Island	27	22159	811
American Samoa	25	17502	695
Marshal	21	20511	1000
Solomons	4	2160	600
	45378	37644490	827

Appendix 4: Veneer Export (1998-2002)

4 (a): Veneer Export by Companies

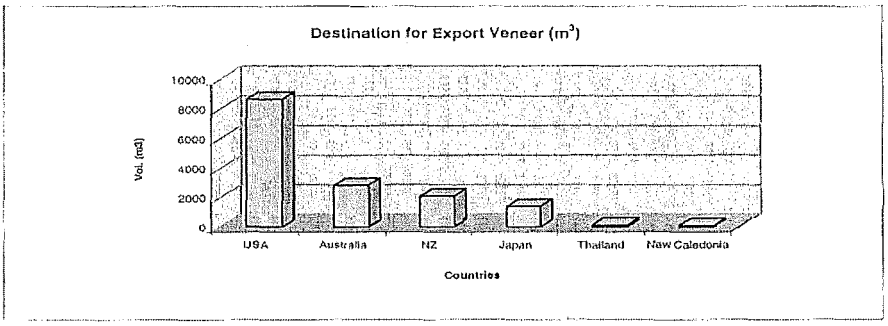


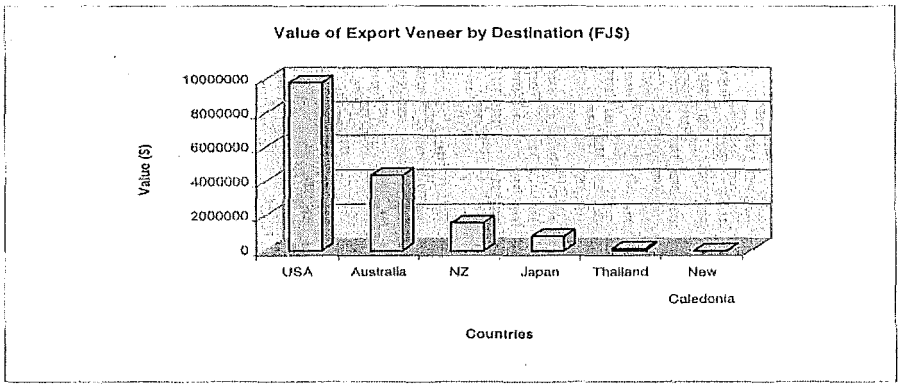


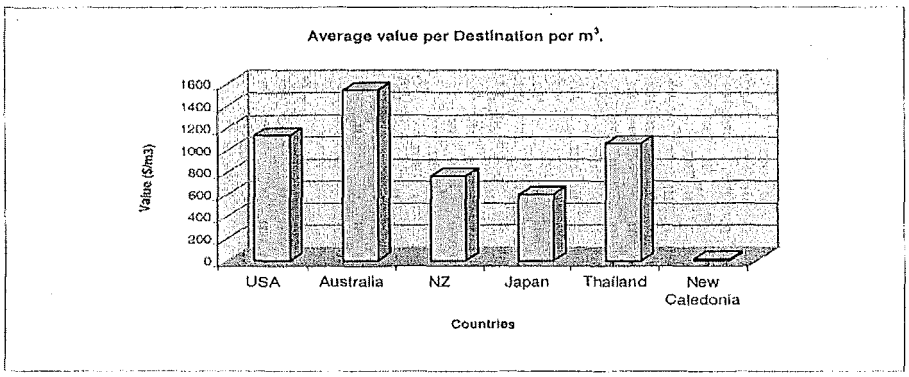


Companies	Total Volume (m3)	Value (FJS)	Av. Value $/m^3
Fiji Forest Industries	11565.88	14320420	1238
Valebasoga Tropik Board	1743.02	2522182	1447
South Sea Timbers	0.12	72	581

4 (b): Veneer Export by Species

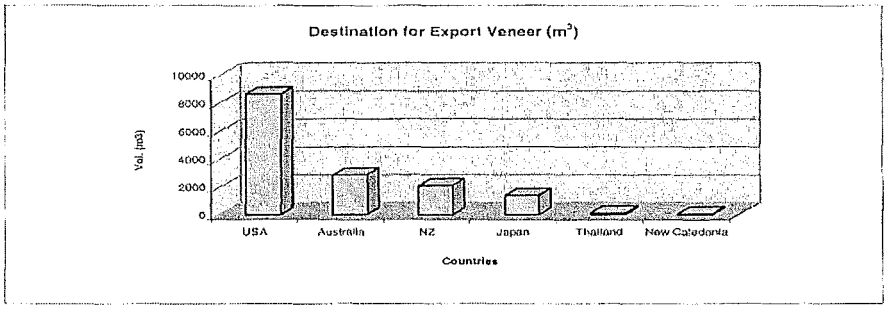


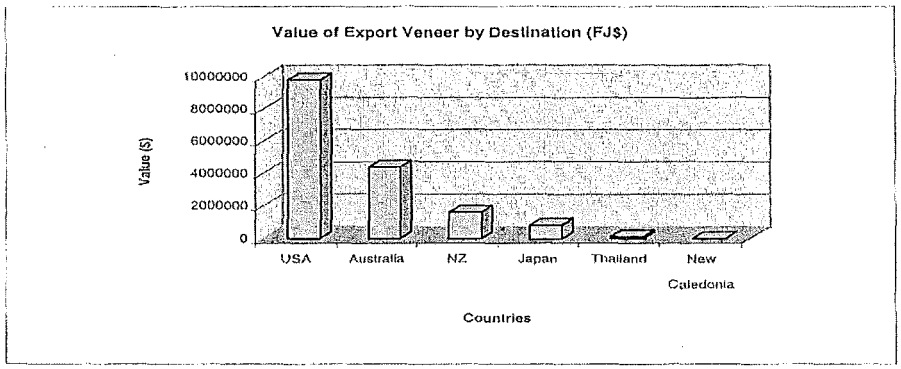


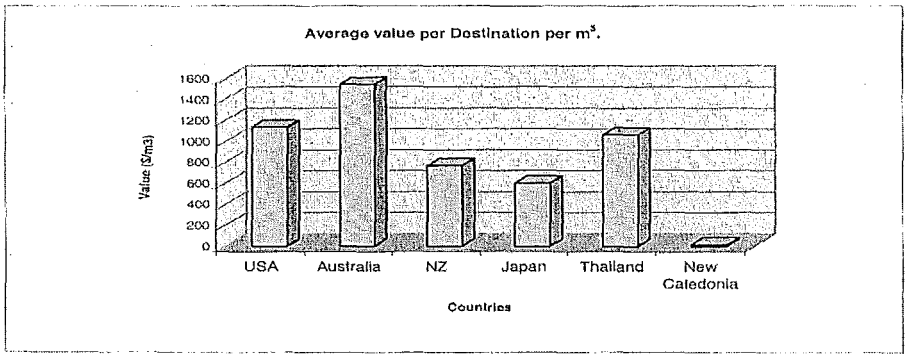


Countries	Total volume(m^3)	Total value(FJ$)	Value ($/m^3$)
USA	8650	9827534	1136
Australia	2846	4395403	1544
NZ	2102	1613818	768
Japan	1388	836512	602
Thailand	113	119531	1062
New Caledonia	69	1270	18

4 ©: Destination for Export Veneer



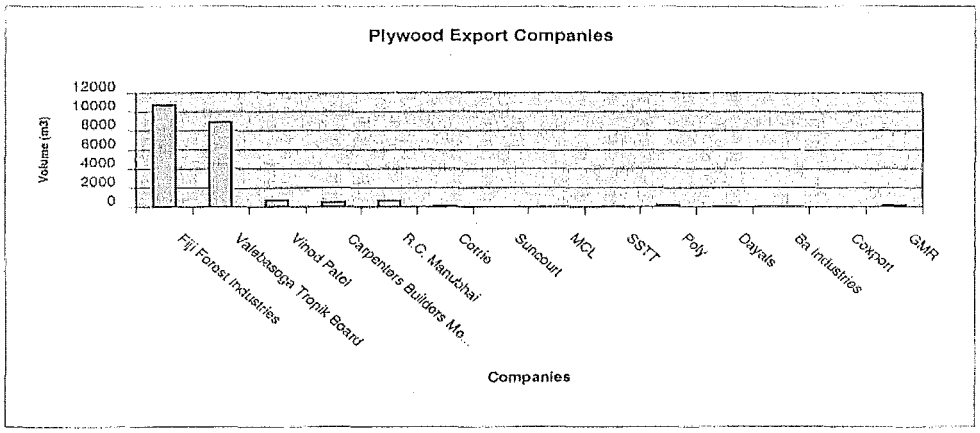


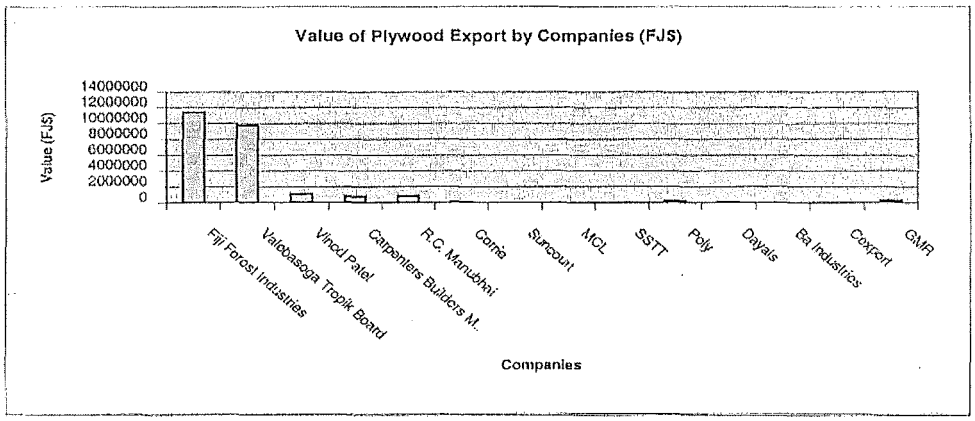


Countries	Total volume(m^3	Total value(FJ$)	Value ($/$m^3$)
USA	8650	9827534	1136
Australia	2846	4395403	1544
NZ	2102	1613818	768
Japan	1388	836512	602
Thailand	113	119531	1062
New Caledonia	69	1270	18

Appendix 5: Plywood Export (1998-2002)

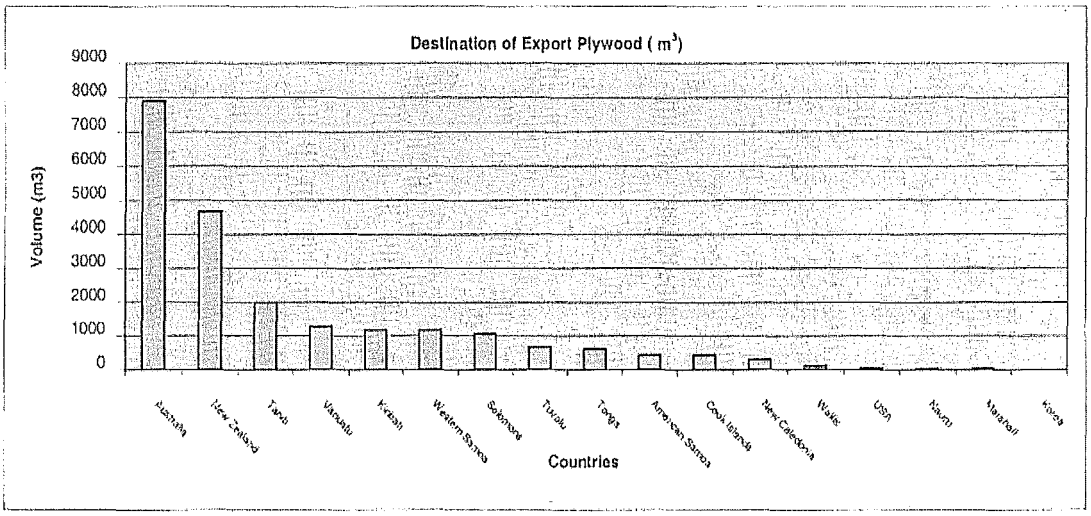
5 (a): Plywood Export by Companies

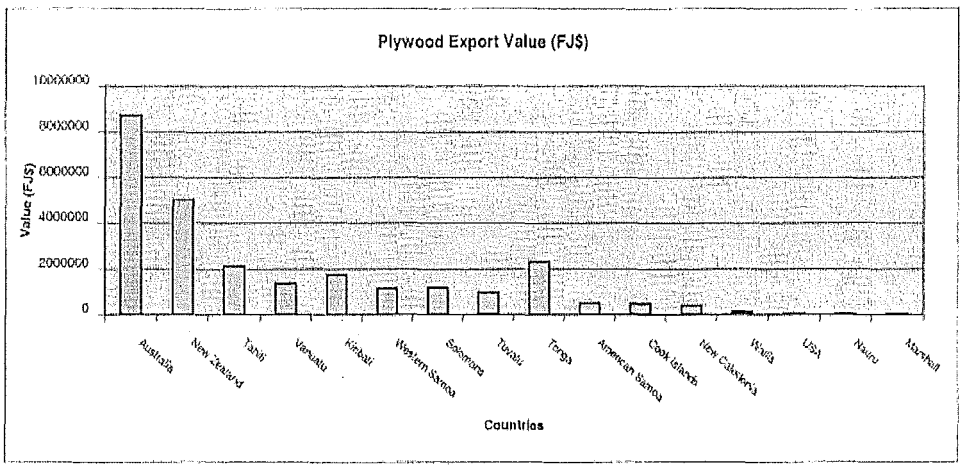




Companies	Volume (m^3)	Value (FJS))	Av. (FJS/m^3)
Fiji Forest Industries	10717.2	11433840	1067
Valebasoga Tropik Board	8903.6	9780924	1099
Vinod Patel	712.2	1100626	1545
Carpenters Builders Merchant	489.9	754593	1540
R.C. Manubhai	673.5	834617	1239
Corrie	87.2	115303	1322
Suncourt	7.2	12322	1718
MCL	0.3	350	1057
SSTT	30.3	19627	649
Poly	156.6	186528	1191
Dayals	14.6	22108	1514
Ba Industries	1.1	1450	1283
Cexport	7.5	8350	1115
GMR	182.9	283790	1551
Shing Kuog(sample)	0.2	0	0

5 (b): Destination of Export Plywood

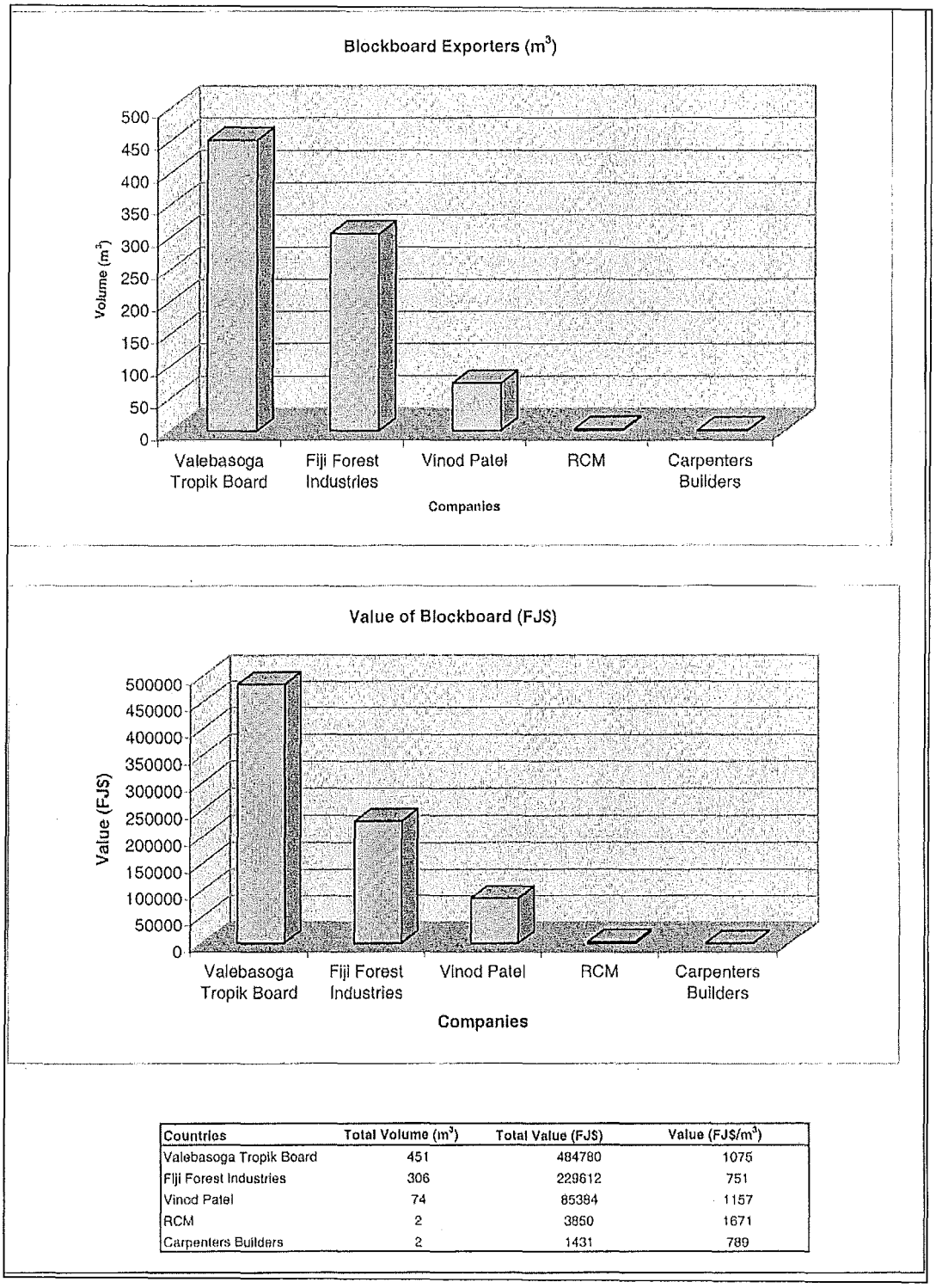




Countries	Total Volume (m^3)	Total Value (FJ$)	Av. Value (FJ$/$m^3$)
Australia	7886	8708651	1104
New Zealand	4662	5007353	1074
Tahiti	1989	2109990	1061
Vanuatu	1265	1360849	1076
Kiribati	1181	1732612	1467
Western Samoa	1171	1133863	968
Solomons	1057	1173153	1110
Tuvalu	663	970690	1463
Tonga	607	2313828	3812
American Samoa	430	478400	1113
Cook Islands	428	474316	1108
New Caledonia	296	394802	1333
Wallis	113	130627	1155
USA	48	48385	1008
Nauru	34	49547	1457
Marshall	32	39638	1250
Korea	0	0	0

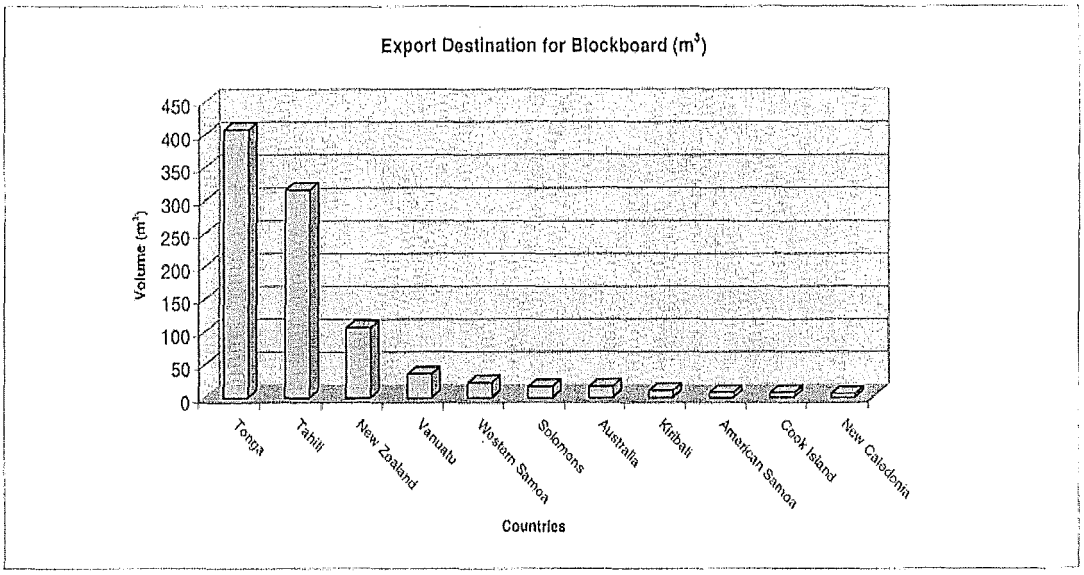
Appendix 6: Blockboard Export (1998-2002)

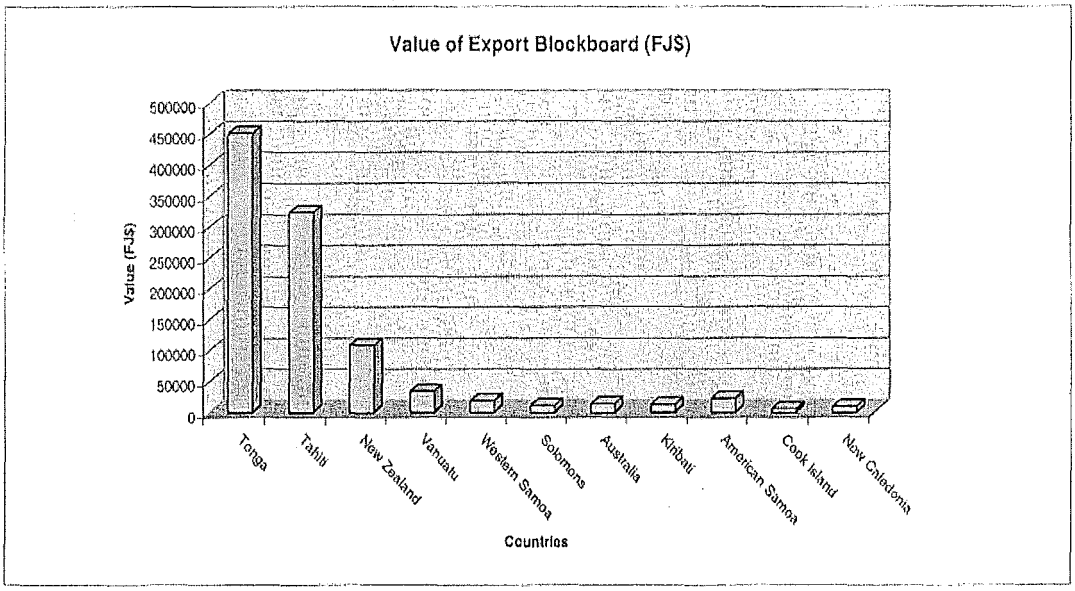
6(a): Blockboard Export by Companies



Countries	Total Volume (m^3)	Total Value (FJ$)	Value (FJ$/$m^3$)
Valebasoga Tropik Board	451	484780	1075
Fiji Forest Industries	306	229612	751
Vinod Patel	74	85394	1157
RCM	2	3850	1671
Carpenters Builders	2	1431	789

6 (b): Blockboard Export by Destination

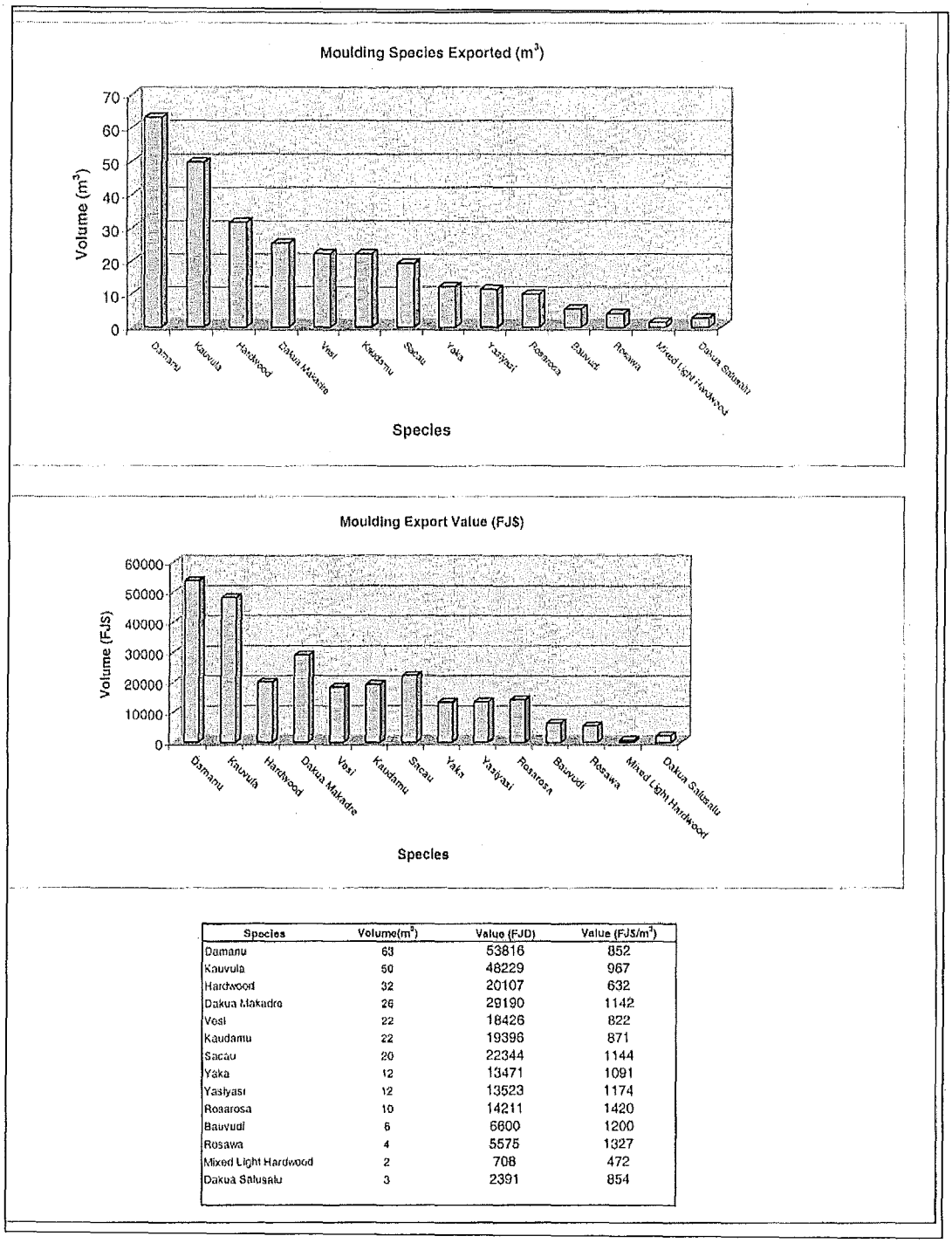




Countries	Total Volume (m^3)	Total Value FJ$)	Av. Value (FJ$/$m^3$)
Tonga	407	451008	1108
Tahiti	316	323459	1024
New Zealand	106	108452	1024
Vanuatu	36	34017	948
Western Samoa	22	19133	851
Solomons	17	11162	644
Australia	17	14607	852
Kiribati	11	12925	1217
American Samoa	8	22752	2933
Cook Island	7	6293	924
New Caledonia	5	10000	1827

Appendix 7: Moulding Export (1998-2002)

7(a): Moulding Export by Species



Species	Volume(m³)	Value (FJD)	Value (FJS/m³)
Damanu	63	53816	852
Kauvula	50	48229	967
Hardwood	32	20107	632
Dakua Makadre	26	29190	1142
Vesi	22	18426	822
Kaudamu	22	19396	871
Sacau	20	22344	1144
Yaka	12	13471	1091
Yasiyasi	12	13523	1174
Rosarosa	10	14211	1420
Bauvudi	6	6600	1200
Rosawa	4	5575	1327
Mixed Light Hardwood	2	708	472
Dakua Salusalu	3	2391	854

7 (b): Export Mouldings by Companies and Destinations

Products	Vol.(m^3)	Value (FJ$)	Av. (FJ$/$m^3$)
Bull Nose	0.975	3533	3624
Skirting	4.815	3862	802
Scotia	0.024	86	3563
1/4Round	13.312	13666	1027
Container Floor	0.172	308	1791
Door & Door Frames	5.489	11388	2075
Railings	0.276	300	1087
Lamp stand	1.401	1200	857
D-moulding 1/4round	36.75	36011	980
Cladding	50	27350	547
Weatherboard	61	35746	586
Flooring	55	49335	897
Fasciaboard	2	1100	550
Shiplap	6	11199	1867
Lining	5	6472	1294
Nogging	2.47	1235	500
1/2 Round	0.681	655	962
Dressed-4-sided	2.901	2298	792
Dowels	1.613	1700	1054
Drawsides	24.543	21944	894
Eaves Batten	2.206	1784	809
Panels	7.65	9180	1200
Scotia Battons	0.75	705	940
Sahped Sill	0.62	417	673

Companies	Volume (m^3)	Value (FJ$)	Av. Value (FJ$/$m^3$
M Chandra	1.136	9262	8153
R C Manubhai	27.863	4024	144
SSTT	144.62	40535	280
Vinod Patel	31.215	2535	81
Cheers	5	5660	1132
Corrie & Co.	0.646	551	853
Rewa Timber	0.276	300	1087
Creative Wood	1.401	1200	857
Arula Investment	15.814	23721	1500
Australian Pacific	17.5	10700	611
Carpenters Builders Merch.	15.562	10559	679
GMR	21.615	14905	690
Nur Ahmed	3	0	0

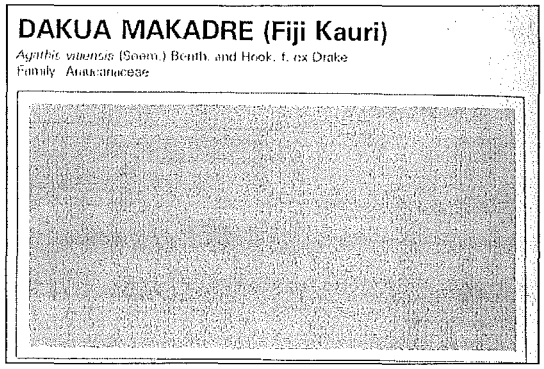
Countries	Vol. (m^3)	Val. (FJ$)
New Zealand	455	9262
Western Samoa	5	4024
Tuvalu	69	40535
Tonga	30	2535
Tahiti	19	5660
New Caledonia	13	551
Kiribati	7	300
Hawaii	3	1200
Wallis & Futuna	1	23721
Australia	350	10700

Appendix 8: Destination of Fijian Hardwood Products for the past 5 years (1998-2002)

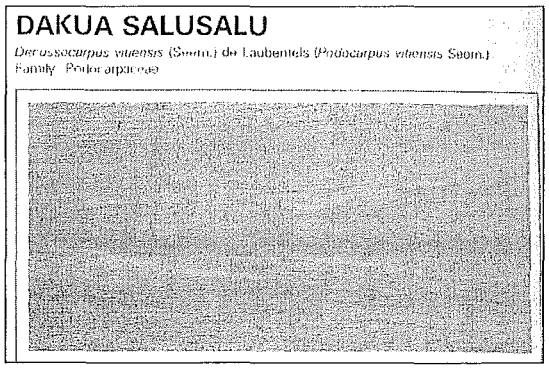
	Timber			Veneer			Plywood			Blockboard			Mouldings			Grand Total Value
Forest Product	Quantity m^3	Value (FJ$)	Av. Value FJD/m^3	Quantity m^3	Value (FJ$)	Av. Value FJD/m^3	Quantity m^3	Value (FJ$)	Av. Value FJD/m^3	Quantity m^3	Value (FJ$)	Av. Value FJD/m^3	Quantity m^3	Value (FJ$)	Av. Value FJD/m^3	FJD
New Zealand	19644	17,516,893	892	2102	130471	62	4662	5,007,353	1074	106	108,452	1024	809	466,684	577	23,229,854
Tahiti	7391	7,580,650	1026				1989	2,109,990	1061	316	323,459	1024	55	61,265	1105	10,075,364
Tuvalu	3779	2,185,506	578				663	970,690	1463				69	50,426	733	3,206,622
New Caledonia	2510	1,631,156	650	69	1270	18	296	394,802	1333	5	10,000	1827	13	7,862	601	2,045,089
Western Samoa	2080	1,098,701	533				1171	1,133,863	968	22	19,133	851	55	11,011	199	2,262,709
Hong Kong	1727	974,990	565													974,990
Kiribati	1545	1,164,967	754				1180	1,732,612	1468	11	12,925	1217	3	2,692	775	2,913,195
Australia	2885	2,511,073	870	2846	4395403	1544	7886	8,708,651	1104	17	14,607	852	1	1,200	857	15,630,935
Taiwan	963	725,669	754												0	725,669
Tonga	840	505,089	601				607	2,313,828	3812	407	451,008	1108	30	19,413	644	3,289,339
China	440	315,604	717													315,604
Japan	408	482,102	1183	1388	836512	602										1,318,614
Vanuatu	343	160,265	467				1265	1,360,849	1076	36	34,017	948				1,555,131
Wallis & Futuna	263	243,600	926				113	130,627	1155				1	1,428	960	375,655
USA	233	195,057	836	8650	9827534	1133	48	48,385	1008							10,070,976
Malaysia	177	70,948	401													70,948
Belgium	60	52,083	872													52,083
Hawaii	31	67,681	2210										3	2,661	887	70,342
Cook Island	27	22,199	811				428	474,316	1108	7	6,293	924				502,809
American Samoa	25	17,592	695				430	478,400	1113	8	22,752	2933				518,743
Marshall	21	20,511	1000				32	39,638	1250							60,149
Solomons	4	2,160	600				1057	1,173,153	1110	17	11,162	644				1,186,474
Thailand				113	119531	1062										119,531
Nauru							34	49,547	1457							49,547
Korea											0					
Others	2032	1,649,802														1,649,802
Total	47408	39,194,299	827	15,168	15,310,721	1,009	21,862	26,126,703	1,195	952	1,013,808	1,065	1,042	624,642	600	82,270,173

Appendix 9 : Colour of Fijian Hardwood Species

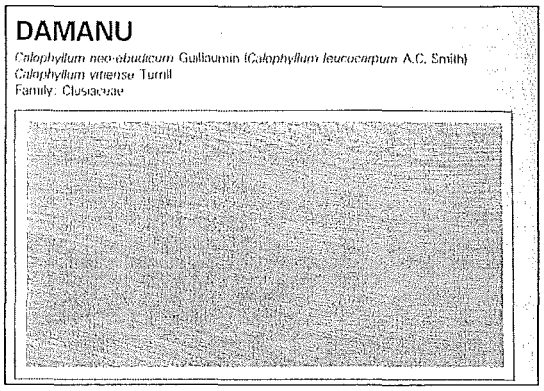
9 (a) Dakua makadre



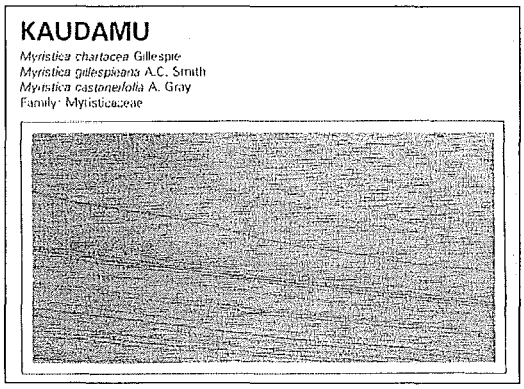
9 (b) Dakua salusalu



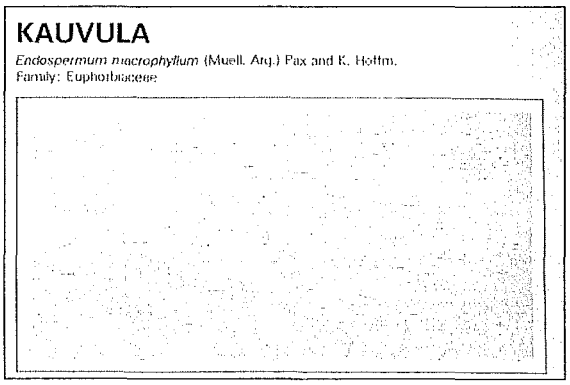
9 © Damanu



9 (d) Kaudamu

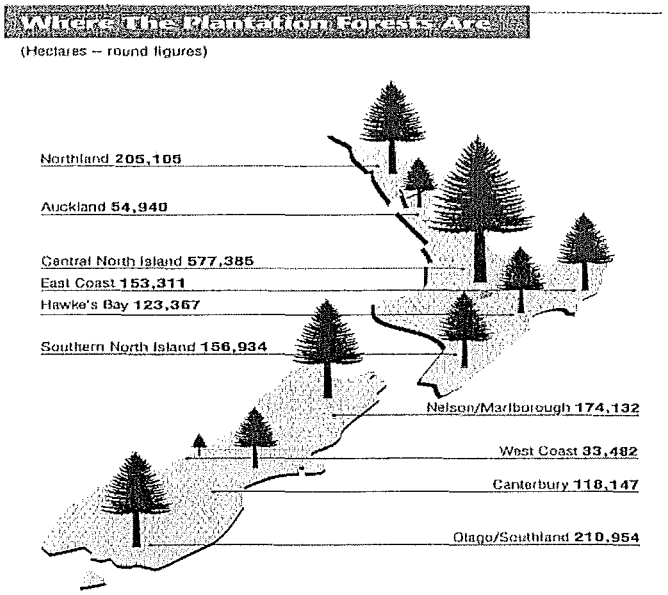


9 (e) Kauvula

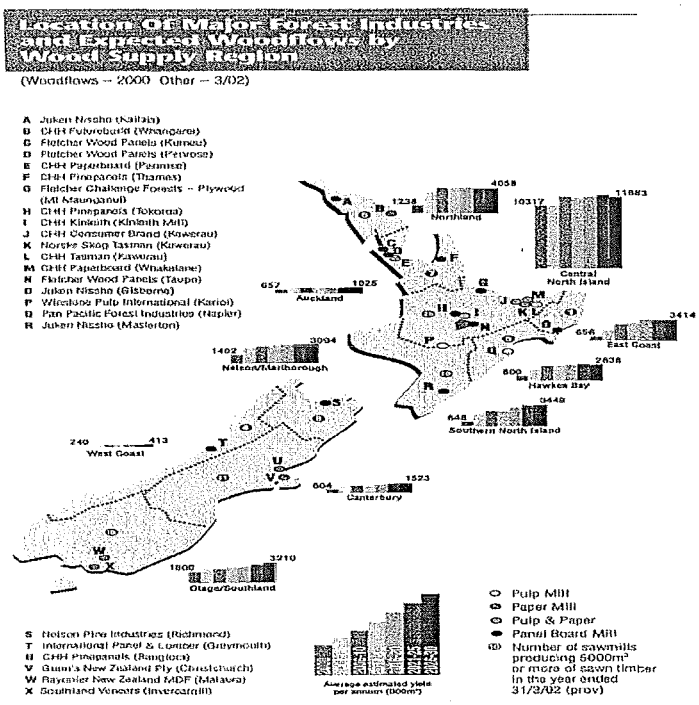


Appendix 10: New Zealand Forest Plantation and Industries

(a) Forest Plantation Locations



(b) Forest Industries Locations



Appendix 11: Imports of Sawn Timber into New Zealand for the Year Ended 31st December 2001.

Total sawn timber and sleepers						
Country of origin	Total softwoods		Total hardwoods		Total sawn timber and sleepers	
	Quantity (m^3(s))	Value NZ$(000)	Quantity (m^3(s))	Value NZ$(000)	Quantity (m^3(s))	Value NZ$(000)
Australia	48	60	3 809	6,045	**9 182**	**7,513**
Brazil	-	-	407	636	**450**	**680**
Britain	-	-	8	35	**8**	**35**
Cameroon	-	-	141	198	**141**	**198**
Canada	9 635	17,487	37	69	**9 672**	**17,556**
China	-	-	29	33	**29**	**33**
Cote d'Ivoire	-	-	35	48	**35**	**48**
Ecuador	-	-	48	49	**48**	**49**
Fiji	655	723	3 250	3,396	**3 905**	**4,119**
Finland	4	8	3	3	**7**	**11**
France	-	-	39	53	**39**	**53**
Ghana	-	-	106	172	**106**	**172**
Guyana	-	-	39	58	**214**	**210**
Hong Kong	54	34	17	95	**71**	**129**
Indonesia	25	24	1 655	2,503	**1 680**	**2,527**
Italy	-	-	162	295	**162**	**295**
Malaysia	-	-	463	692	**463**	**692**
Myanmar	-	-	252	1,201	**252**	**1,201**
Nigeria	-	-	71	96	**71**	**96**
Other Pacific Islands	38	10	1	2	**39**	**12**
Papua New Guinea	610	504	2 960	3,087	**3 570**	**3,591**
Peru	-	-	87	148	**87**	**148**
Singapore	-	-	56	121	**56**	**121**
Solomon Is.	-	-	159	171	**159**	**171**
South Africa	-	-	105	111	**105**	**111**
United States	234	225	1 320	3,092	**1 568**	**3,330**
Other countries	9	14	81	178	**141**	**233**
Total	**11 312**	**19,089**	**15 340**	**22,587**	**32 260**	**43,334**

Source: INFOS database, Statistics New Zealand. Table compiled by Forestry Statistics Section, Policy Information, Ministry of Agriculture and Forestry.

Appendix 12: Survey Questionnaires

Please, provide the following information as background about your company:

Company name: _____

Name of the respondent _____

Title _____

Address of the company _____

Business Environment

Q1 How long you have been in the Timber Business ***(please tick)***

___ less than 5 years ___ 10 to 15 years ___ more than 20 years

___ 5 to 10 years ___ 15 to 20 years

Q2 Does your company import hardwood species from Fiji? ***(please tick)***

☐ Yes ☐ No *(see question Q4)*

Q3 In what form does your company imported these hardwoods ***(please tick)***

___ Rough sawn lumber (green)

___ Rough sawn lumber (kiln dried)

___ Veneer

___ Plywood

___ Slice veneer

___ Finished products

___ Other (please specify) _____

Species/Properties

Q4 Which of the following Fijian Hardwood species does your company import/manufacture? ***(please tick)***

.... Kauvula (Pacific whitewood) *(Endospermum macrophyllum)*

.... Kaudamu (Pacific Marple) *(Myristica chartacea)*

.... Dakua Makadre (Fijian Kauri) *(Agathis vitiensis)*

.... Dakua Salusalu (Pacific Rimu) *(Decussocarpus vitiensis)*

.... Damanu (Pacific Calophyllum) *(Calophyllum vitiense)*

.... Yaka (Heart Rimu) *(Dacrydium nidulum)*

.... Bauvudi (Pencil Cedar) *(Palagium fidjiense)*

.... Vesi (Kwila) *(Intsia bijuga)*

.... Others (please specify).....

Q5 How would you characterized the properties of the following species? ***(please rank according to their importance).***

1 = very important 2 = important 3 = moderately important 4 = not very important
5 = not at all important

	Technical quality/ durability	Usability/ weight	Visual/ properties/ appearance	Price	Service/ information
Kauvula.....	(___)	(___)	(___)	(___)	(___)
Kaudamu.....	(___)	(___)	(___)	(___)	(___)
Dakua Makadre	(___)	(___)	(___)	(___)	(___)
Dakua Salusalu.....	(___)	(___)	(___)	(___)	(___)
Damanu.....	(___)	(___)	(___)	(___)	(___)

Q6 What products do your company produces from these hardwoods? ***(please tick)***

	Kauvula	Kaudamu	Fijian Kauri	D/Salusalu	Damanu
Flooring	(___)	(___)	(___)	(___)	(___)
Architraves	(___)	(___)	(___)	(___)	(___)
Door	(___)	(___)	(___)	(___)	(___)
Windows	(___)	(___)	(___)	(___)	(___)
Picture frames	(___)	(___)	(___)	(___)	(___)
Lining	(___)	(___)	(___)	(___)	(___)
Kitchen cabinets	(___)	(___)	(___)	(___)	(___)
Beds	(___)	(___)	(___)	(___)	(___)
Chairs	(___)	(___)	(___)	(___)	(___)
Table tops	(___)	(___)	(___)	(___)	(___)
Door frames	(___)	(___)	(___)	(___)	(___)
Slice veneer	(___)	(___)	(___)	(___)	(___)
Tool Handles	(___)	(___)	(___)	(___)	(___)
Decorative	(___)	(___)	(___)	(___)	(___)
Others (specify) _____	(___)	(___)	(___)	(___)	(___)

Q7 What is the average wood volume your company imports/processes on *annual* basis? ***(please tick)***

	Less than 200 m^3	201-300m^3	301-500m^3	501m^3 plus
Kauvula	(___)	(___)	(___)	(___)
Kaudamu	(___)	(___)	(___)	(___)
Dakua makadre	(___)	(___)	(___)	(___)
Dakua Salusalu	(___)	(___)	(___)	(___)
Damanu	(___)	(___)	(___)	(___)

Importer/Manufacturer

Q8 How long you have been doing business with your supplier/wholesaler of Fijian hardwoods? ***(please tick)***

___ less than 2 years ___ 2 to 5 years ___ 6 to 9 years

___ 10 to 13 years ___ 14 to 17 years

Manufacturing

Q9 Who are your customers*?* ***(please circle)***

1 = primary 2 = mainly 3 = few 4 = none

Merchants.....	1	2	3	4
Upper income families.....	1	2	3	4
Do-It-Yourself.....	1	2	3	4
Owner of new homes.....	1	2	3	4
Retailers.....	1	2	3	4

Others (please specify).....

Q10 Is your company willing to consider processing final products in developing countries, like Fiji, taking advantage of lower processing costs. ***(please circle)***

1 = strongly agree 2 = Agree 3 = Neutral 4 = Disagree
5 = strongly disagree

1 2 3 4 5

Q11 What business strategy would your company develop to manufacture products in developing countries, like Fiji? ***(please tick)***

___ mergers/joint ventures

___ acquisitions (buying a plant)

___ buy components and finished them in NZ

___ distributor (act as sales agent for offshore customer)

___ others (please specify).....

Q12 Estimate the savings your company might generate *if processing/manufacturing* of final products occurred in Fiji? ***(please tick)***

___less than 10% ___ 10 to 25% ___26 to 50% ___51 to 75%

___76 to 100% ___ more than 100%

Timber Certification

Q13 Do your customers request CERTIFIED products? (***please circle)***

1 = strongly agree 2 = Agree 3 = Neutral 4 = Disagree

5 = strongly disagree

1 2 3 4 5

Q14 Why is your company interested in certified products? ***(please circle)***

1 = strongly agree 2 = Agree 3 = Neutral 4 = Disagree
5 = strongly disagree

Public Image	1	2	3	4	5
Customer demand	1	2	3	4	5
Market access	1	2	3	4	5
Niche market	1	2	3	4	5
Responsible thing to do	1	2	3	4	5

Other (please specify).....

Q15 Are your customers willing to pay a higher price for environmentally friendly products ***(please circle)***

1 = strongly agree 2 = Agree 3 = Neutral 4 = Disagree
5 = strongly disagree

1 2 3 4 5

Q16 What percentage price increase would you expect to pay for certified products you purchase? ***(Please answer for your most important source of certified timber)***

___ 1-5% ___ 6-10% ___ 11-15% ___ 16-20%

Distribution

Q17 How do you sell your products? ***(please tick)***

____ Wholesaler ____ Office wholesaler ____ Retailer

____ Industrial Customer ____ Other (please specify).....

Q18 How many distributors/agents handle your Fijian hardwood products before reaching the final customers? ***(please tick)***

___ None ___ 1-2 ___ 3-4 ___ more than 4

Information

Q19 How did your company receive information about these Fijian species?

..... Fiji Timber Handbook

..... Brochures

..... Sales representatives

..... Trade shows

..... Others (please specify).....

Q20 Is your company receiving sufficient information about these species from the supplier for promotion purposes? ***(please circle)***

1 = strongly agree 2 = Agree 3 = Neutral 4 = Disagree
5 = strongly disagree

1 2 3 4 5

Q21 Are the species products well presented in the marketplace for final customers' appreciation? ***(please tick)***

1 = strongly agree 2 = Agree 3 = Neutral 4 = Disagree
5 = strongly disagree

1 2 3 4 5

Q22 What is the percentage breakdown of the company's total hardwood wood products turnover by product types (%) make up? ***(please tick)***

a) Doors, windows and prefabricated components..... (_____)%
b) Kitchen cabinets..... (_____)%
c) Panels and mouldings..... (_____)%
d) Construction panels..... (_____)%
e) Flooring materials (Parquet & Laminates)..... (_____)%
f) Other (please specify)..... (_____)%

Add up to 100%

Q23 What is the annual turnover of your company (on average)? ***(please tick)***

____ less 500,000
____ 500,000 to 1 m
____ 1 000 001 to 1.5
____ 1 500 001 to 2 m
____ more than 2 m

Q24 What are the regions your company is operating in? ***(please tick)***

_____ Auckland
_____ Rotorua
_____ Wellington
_____ Canterbury
_____ Dunedin
_____ Nelson
_____ (Other) please specify.....

THANK YOU VERY MUCH FOR YOUR TIME AND EFFORTS

ALL ANSWERS WILL BE KEPT STRICTLY CONFIDENTIAL AND ANONYMOUS

Appendix 13: Cross-Tabulations Results

13 (a): Cross-Tabulation for Certified Products vs Public Image

Request for Certified Products * Public Image

			Public Image			Total
			strongly agree	agree	neutral	
Request for Certified Products	strongly agree	Count	2			2
		% within Request for Certified Products	100.0%			100.0%
		% within Public Image	66.7%			14.3%
		% of Total	14.3%			14.3%
	agree	Count		5		5
		% within Request for Certified Products		100.0%		100.0%
		% within Public Image		71.4%		35.7%
		% of Total		35.7%		35.7%
	neutral	Count	1	2	2	5
		% within Request for Certified Products	20.0%	40.0%	40.0%	100.0%
		% within Public Image	33.3%	28.6%	50.0%	35.7%
		% of Total	7.1%	14.3%	14.3%	35.7%
	disagree	Count			2	2
		% within Request for Certified Products			100.0%	100.0%
		% within Public Image			50.0%	14.3%
		% of Total			14.3%	14.3%
Total		Count	3	7	4	14
		% within Request for Certified Products	21.4%	50.0%	28.6%	100.0%
		% within Public Image	100.0%	100.0%	100.0%	100.0%
		% of Total	21.4%	50.0%	28.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.667	6	.007
Likelihood Ratio	18.420	6	.005
Linear-by-Linear Association	6.893	1	.009
N of Valid Cases	14		

a 12 cells (100.0%) have expected count less than 5. The minimum expected count is .43.

13 (b): Cross Tabulation for Certified Products vs Custom Demand

Request for Certified Products * Custom Demand

Crosstab

			Custom Demand			Total
			strongly agree	agree	neutral	
Request for Certified Products	strongly agree	Count	2			2
		% within Request for Certified Products	100.0%			100.0%
		% within Custom Demand	100.0%			14.3%
		% of Total	14.3%			14.3%
	agree	Count		4	1	5
		% within Request for Certified Products		80.0%	20.0%	100.0%
		% within Custom Demand		66.7%	16.7%	35.7%
		% of Total		28.6%	7.1%	35.7%
	neutral	Count		2	3	5
		% within Request for Certified Products		40.0%	60.0%	100.0%
		% within Custom Demand		33.3%	50.0%	35.7%
		% of Total		14.3%	21.4%	35.7%
	disagree	Count			2	2
		% within Request for Certified Products			100.0%	100.0%
		% within Custom Demand			33.3%	14.3%
		% of Total			14.3%	14.3%
Total		Count	2	6	6	14
		% within Request for Certified Products	14.3%	42.9%	42.9%	100.0%
		% within Custom Demand	100.0%	100.0%	100.0%	100.0%
		% of Total	14.3%	42.9%	42.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.667	6	.005
Likelihood Ratio	16.385	6	.012
Linear-by-Linear Association	8.078	1	.004
N of Valid Cases	14		

a 12 cells (100.0%) have expected count less than 5. The minimum expected count is .29.

13 © Cross Tabulation for Certified Products vs Market Access

Request for Certified Products * Market Access

			Market Access			Total
			strongly agree	agree	neutral	
Request for Certified Products	strongly agree	Count	1			1
		% within Request for Certified Products	100.0%			100.0%
		% within Market Access	100.0%			10.0%
		% of Total	10.0%			10.0%
	agree	Count			2	2
		% within Request for Certified Products			100.0%	100.0%
		% within Market Access			28.6%	20.0%
		% of Total			20.0%	20.0%
	neutral	Count		1	4	5
		% within Request for Certified Products		20.0%	80.0%	100.0%
		% within Market Access		50.0%	57.1%	50.0%
		% of Total		10.0%	40.0%	50.0%
	disagree	Count		1	1	2
		% within Request for Certified Products		50.0%	50.0%	100.0%
		% within Market Access		50.0%	14.3%	20.0%
		% of Total		10.0%	10.0%	20.0%
Total		Count	1	2	7	10
		% within Request for Certified Products	10.0%	20.0%	70.0%	100.0%
		% within Market Access	100.0%	100.0%	100.0%	100.0%
		% of Total	10.0%	20.0%	70.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.643	6	.070
Likelihood Ratio	8.260	6	.220
Linear-by-Linear Association	1.303	1	.254
N of Valid Cases	10		

a 12 cells (100.0%) have expected count less than 5. The minimum expected count is .10.

13 (d): Cross-Tabulation for Certified Products vs Niche Market

Request for Certified Products * Niche market

Crosstab

			Niche market				Total
			strongly agree	agree	neutral	disagree	
Request for Certified Products	strongly agree	Count	2				2
		% within Request for Certified Products	100.0%				100.0%
		% within Niche market	100.0%				20.0%
		% of Total	20.0%				20.0%
	agree	Count		1			1
		% within Request for Certified Products		100.0%			100.0%
		% within Niche market		33.3%			10.0%
		% of Total		10.0%			10.0%
	neutral	Count		2	3		5
		% within Request for Certified Products		40.0%	60.0%		100.0%
		% within Niche market		66.7%	75.0%		50.0%
		% of Total		20.0%	30.0%		50.0%
	disagree	Count			1	1	2
		% within Request for Certified Products			50.0%	50.0%	100.0%
		% within Niche market			25.0%	100.0%	20.0%
		% of Total			10.0%	10.0%	20.0%
Total		Count	2	3	4	1	10
		% within Request for Certified Products	20.0%	30.0%	40.0%	10.0%	100.0%
		% within Niche market	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	30.0%	40.0%	10.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.750	9	.053
Likelihood Ratio	16.094	9	.065
Linear-by-Linear Association	7.133	1	.008
N of Valid Cases	10		

a 16 cells (100.0%) have expected count less than 5. The minimum expected count is .10.

13 (e): Cross-tabulation for Certified Products vs Responsible Thing to Do

Request for Certified Products * Responsible thing

Crosstab

			Responsible thing			Total
			strongly agree	agree	neutral	
Request for Certified Products	strongly agree	Count	2			2
		% within Request for Certified Products	100.0%			100.0%
		% within Responsible thing	66.7%			16.7%
		% of Total	16.7%			16.7%
	agree	Count		3		3
		% within Request for Certified Products		100.0%		100.0%
		% within Responsible thing		50.0%		25.0%
		% of Total		25.0%		25.0%
	neutral	Count		3	2	5
		% within Request for Certified Products		60.0%	40.0%	100.0%
		% within Responsible thing		50.0%	66.7%	41.7%
		% of Total		25.0%	16.7%	41.7%
	disagree	Count	1		1	2
		% within Request for Certified Products	50.0%		50.0%	100.0%
		% within Responsible thing	33.3%		33.3%	16.7%
		% of Total	8.3%		8.3%	16.7%
Total		Count	3	6	3	12
		% within Request for Certified Products	25.0%	50.0%	25.0%	100.0%
		% within Responsible thing	100.0%	100.0%	100.0%	100.0%
		% of Total	25.0%	50.0%	25.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.800	6	.046
Likelihood Ratio	15.451	6	.017
Linear-by-Linear Association	2.687	1	.101
N of Valid Cases	12		

a 12 cells (100.0%) have expected count less than 5. The minimum expected count is .50.

Appendix 14: Cross-tabulation of processing final products in developing countries

Processing Final Products in Developing Countries * Company import Fijian hardwood species Crosstabulation

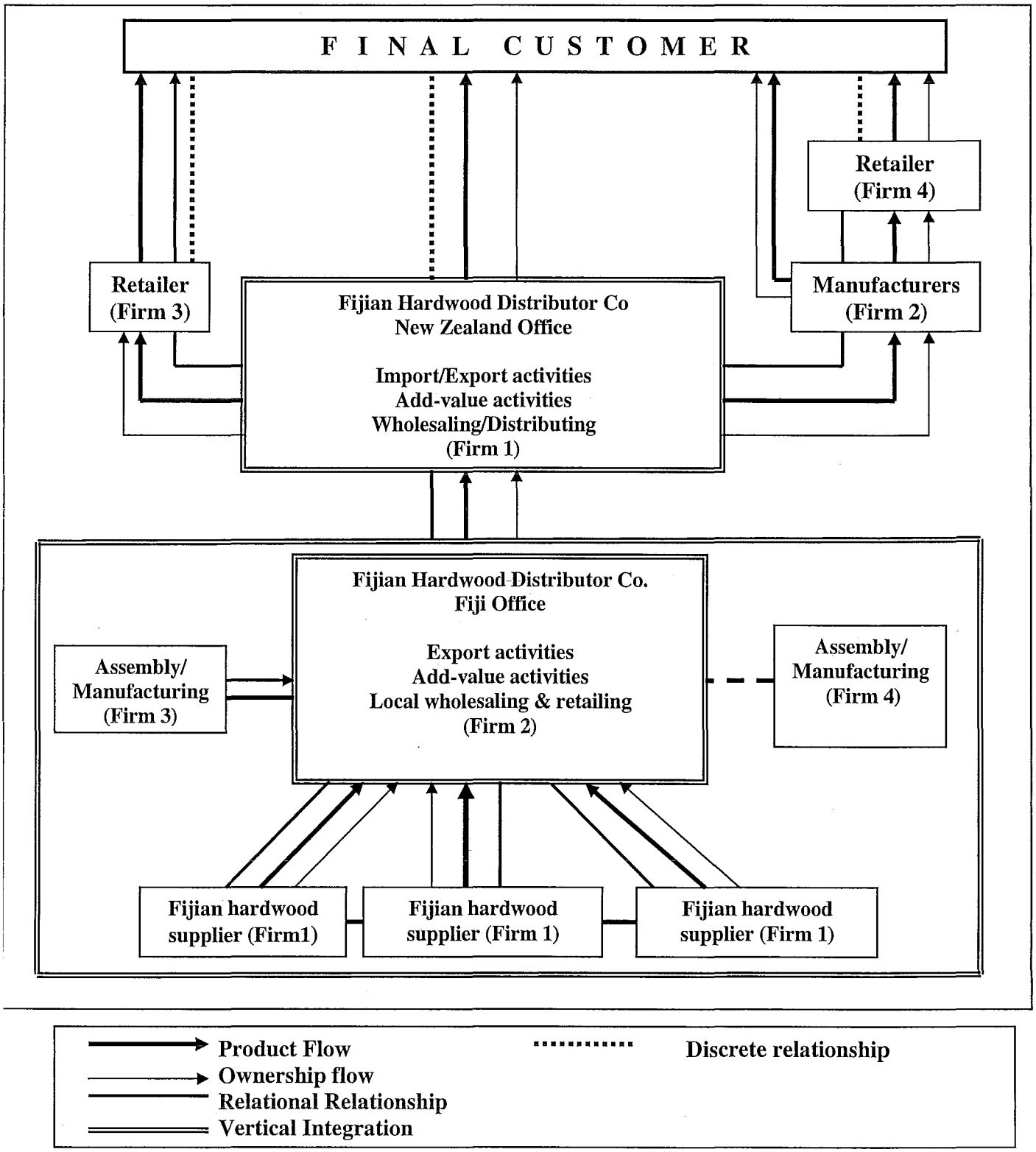
			Company import Fijian hardwood species		Total
			Yes	No	
Processing Final Products in Developing Countries	strongly agree	Count	3		3
		% within Processing Final Products in Developing Countries	100.0%		100.0%
		% within Company import Fijian hardwood species	27.3%		20.0%
		% of Total	20.0%		20.0%
	agree	Count	4		4
		% within Processing Final Products in Developing Countries	100.0%		100.0%
		% within Company import Fijian hardwood species	36.4%		26.7%
		% of Total	26.7%		26.7%
	neutral	Count	3	1	4
		% within Processing Final Products in Developing Countries	75.0%	25.0%	100.0%
		% within Company import Fijian hardwood species	27.3%	25.0%	26.7%
		% of Total	20.0%	6.7%	26.7%
	disagree	Count	1	2	3
		% within Processing Final Products in Developing Countries	33.3%	66.7%	100.0%
		% within Company import Fijian hardwood species	9.1%	50.0%	20.0%
		% of Total	6.7%	13.3%	20.0%
	strongly disagree	Count		1	1
		% within Processing Final Products in Developing Countries		100.0%	100.0%
		% within Company import Fijian hardwood species		25.0%	6.7%
		% of Total		6.7%	6.7%
Total		Count	11	4	15
		% within Processing Final Products in Developing Countries	73.3%	26.7%	100.0%
		% within Company import Fijian hardwood species	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

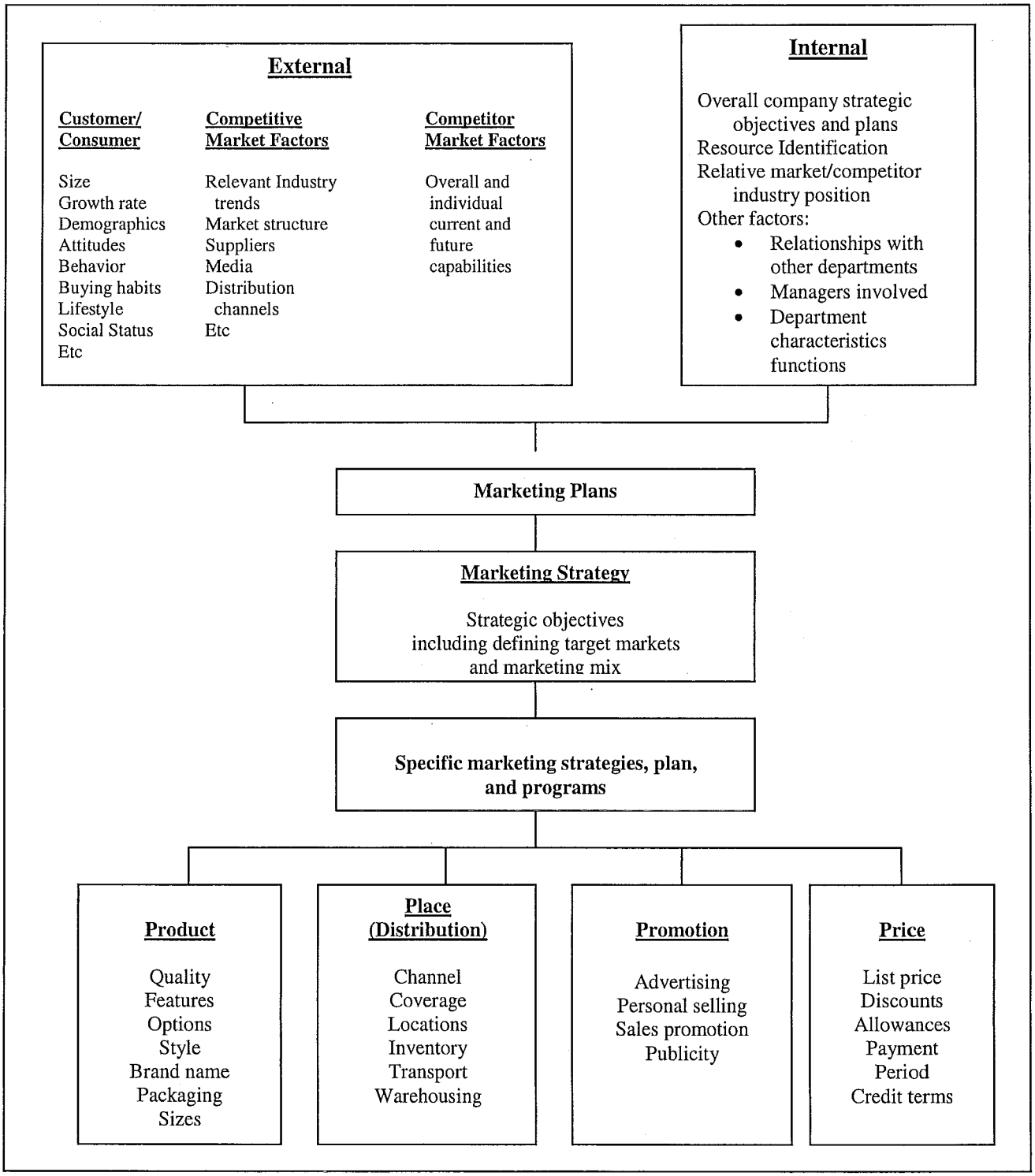
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.756	4	.101
Likelihood Ratio	9.080	4	.059
Linear-by-Linear Association	6.364	1	.012
N of Valid Cases	15		

a 10 cells (100.0%) have expected count less than 5. The minimum expected count is .27.

Appendix 15: Fijian Hardwood Lumber Chain Product Flow, Ownership and Relationship Network



Appendix 16: Marketing Plan Framework



Source: Robert J. Mockler, 2002.

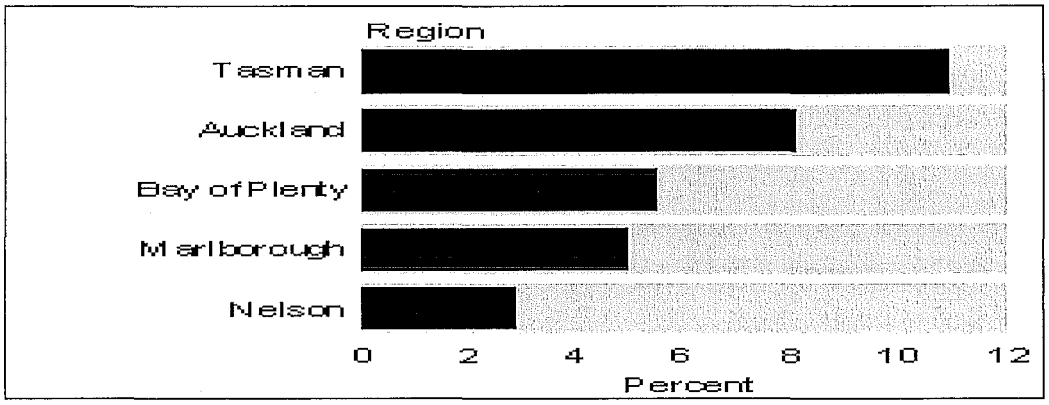
Appendix 17: Market Segmentation in New Zealand

	GEOGRAPHIC
Region or Cities:	Auckland, Canterbury, Wellington, Dunedin and Nelson, Tauranga, Rotorua, Others
City Size:	Less than 50,000; 50,000-70,000; 70,000-100,000; 100,000-250,000; 250,000-500,000; 500,000-1,000,000; 1,000,000-over.
Density:	Urban, Suburban, Rural
	DEMOGRAPHIC
Age:	0-4, 5-9, 10-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65 plus
Gender:	Male, Female
Family Size:	1-2, 3-4.
Family Life Cycle:	Couple only, Couple (1 dependent child), Couple (2 dependent children), Couple (3+dependent children), One parent with dependent children, one person household.
Income:	Under 13,900; 14-900-20,699; 20,700-25,899; 25,900-32,399; 32,400-40,599; 40,600-51,099; 51,100-62,299; 62,300-76,699; 76,700-101,099; 101,100 or over
Occupation:	Legislators, Administers and Managers; Professionals; Technicians and Associate professionals, Clerks, Service & sales workers, Agricultural & fishery workers, Plant-machine operators, Assemblers, Elementary occupations, not actively engaged
Education:	Higher degree, bachelor degree, advanced vocational, school certificate, no formal education
Religion:	Christians, (Anglican, Catholic, Presbyterian, Methodist, Pentecostal), Non-Christian (Hindu, Buddhist, Islam, Spiritualism)
Race:	European/Pakeha, Maoris, Pacific Islander, Asian, Others
	PSYCHOGRAPHIC
Social class:	Upper middles, lower uppers, upper uppers, middle class, working class, real lower class
Lifestyle:	Actualizers, Achievers, Strivers, Strugglers
Personalities:	Compulsive, Gregarious, ambitious, authoritarian
	BEHAVIORAL
Benefits:	Quality, service, economy, convenience, speed
User status:	Potential user, first-time user, regular user
Type of Customer:	Merchants, Upper Income Families, DIY, Owners of New Homes, Retailer
Usage rate:	Medium user, heavy user
Loyalty status:	Strong, absolute
Readiness stage:	Aware, informed, desirous, intending to buy
Attitude toward product:	Enthusiastic, positive

Appendix 18(a): Population change in Regions 2001

Regional Council		Increase or Decrease (1996-2001)	
		Number	Percent
North Island			
Northland Region	140,133	3,081	2.2
Auckland Region	1,158,891	90,234	8.4
Waikato Region	357,726	7,614	2.2
Bay of Plenty Region	239,412	15,048	6.7
Gisborne Region	43,974	-1,812	-4.0
Hawke's Bay Region	142,947	159	0.1
Taranaki Region	102,858	-3,732	-3.5
Manawatu-Wanganui Region	220,089	-8,682	-3.8
Wellington Region	423,765	9,717	2.3
Total North Island	**2,829,798**	**111,627**	**4.1**
	-	-	-
South Island	-	-	-
Tasman Region	41,352	3,381	8.9
Nelson Region	41,568	1,290	3.2
Marlborough Region	38,397	1,161	3.0
West Coast Region	30,303	-2,211	-6.8
Canterbury Region	481,431	13,392	2.9
Otago Region	181,542	-3,540	-1.9
Southland Region	91,005	-6,093	-6.3
Total South Island	906,753	7,368	0.1
	-	-	-
Area Outside Region	**726**	**-21**	**-2.8**
	-	-	-
Total New Zealand	**3,737,277**	**118,974**	**3.3**

18 (b)Fastest Growing Regions



Appendix 19: Population change in the main cities -2001

City	Increase or Decrease 1996-2001
North Shore City	9.9
Waitakere City	11.7
Auckland City	8.6
Manukau City	12.4
Hamilton City	9.8
Napier City	3.7
Palmerston North City	4.2
Porirua City	6
Upper Hutt City	3.2
Lower Hutt City	1.5
Wellington City	5.8
Nelson City	5.8
Christchurch City	5.7
Dunedin City	1.6
Invercargill City	-0.7
Total Cities	7.2

Appendix 20: New Zealand Household Profile (Population and Dwellings)

New Zealand Household Profile

Table 1

Age Group Distribution

Age Group:	Number	%
0-4	270,801	7.0
5-14	576,942	16.0
15-24	505,068	13.0
25-34	526,179	14.0
35-44	583,086	16.0
45-54	487,953	13.0
55-64	336,831	9.0
65-74	246,171	6.0
75-84	155,616	5.0
85-over	48,639	1.0
Total	**3,737,286**	**100.0**

Income of Reference Person

Annual Gross Income	Distribution of Household Population	
	Number	%
Under $8,100, including loss	135,500	9.9
$8,100-11,799	144,200	10.5
$11,800-14,399	130,200	9.5
$14,400-17,099	135,700	9.9
$17,100-22,499	139,400	10.2
$22,500-28,099	136,600	10.0
$28,100-34,499	138,600	10.1
$34,500-42,099	136,500	10.0
$42,100-59,399	135,600	9.9
$59,400 or over	138,800	10.1
Total	**1,371,000**	**100.0**

Table 2

Table 3

Gender of Reference Person

Gender:	Number	%
Male	673,000	49.1
Female	698,000	50.9
Total	**1,371,000**	**100.0**

Table 4

Marital Status of Reference Person

Marital Status	Number	%
Partnered (1)	838,700	61.2
Non-partnered (2)	530,600	38.7

Total Marital Status	1,371,000	100.0

(1) 'Partnered', includes persons living with legal spouse or partner.
(2) 'Non-partnered' includes persons who are not living with a partner who are either separated, divorced, widowed or never married.

Table 5
Ethnicity of Reference Person

Ethnic Group	Number	%
European / Pakeha	1,092,400	79.7
New Zealand Maori	161,400	11.8
Pacific Island	45,400	3.3
Other	71,800	5.2
Total	**1,371,000**	**100.0**

Annual Gross Income	Distribution of Household Population

Table 6
Highest Qualification of Reference Person

Highest Qualification	Number	%
Not applicable (aged 65 and over)	274,000	20.0
No formal qualification	263,000	19.2
School Certificate	178,700	13.0
University Entrance/Bursary/Scholarship	131,200	9.6
Vocational or Trade Certificate	277,300	20.2
Bachelors degree or diploma	145,400	10.6
Other qualification	101,500	7.4
Total	**1,371,000**	**100.0**

Table 7
Occupation of Reference Person

Occupation	Number	%
Legislators/Administrators/Managers	134,000	9.8
Professionals	138,800	10.1
Technicians & associate professionals	99,000	7.2
Clerks	78,200	5.7
Service & Sales workers	107,000	7.8
Agricultural & fishery workers	88,800	6.5
Trades workers	70,400	5.1
Plant-machine operators, assemblers	68,300	5.0
Elementary occupations	60,100	4.4
Not actively engaged	526,300	38.4
Total	**1,371,000**	**100.0**

Table 8
Employment Status of Reference Person

Employment Status	Number	%
Full-time self-employed	114,400	8.3
Full-time wage or salary worker	558,100	40.7
Part-time employee	170,700	12.5

Not in Paid employment	527,800	38.5
Total	**1,371,000**	**100.0**

Table 9
Labour Force Status of Reference Person

Labour Force Status	Number	%
Employed	844,700	61.6
Unemployed	39,200	2.9
Not in the Labour Force	206,300	15.0
Retired	280,800	20.5
Total	**1,371,000**	**100.0**

Table 10
Household Income

Annual Gross Income	Number	%
Under $13,900, including loss	136,500	10.0
$14,900-20,699	138,100	10.1
$20,700-25,899	137,000	10.0
$25,900-32,399	138,200	10.1
$32,400-40,599	136,800	10.0
$40,600-51,099	136,400	9.9
$51,100-62,299	136,300	9.9
$62,300-76,699	138,800	10.1
$76,700-101,099	135,300	9.9
$101,100 or over	137,600	10.0
Total	**1,371,000**	**100.0**

Annual Gross Income	Distribution of Household Population

Table 11
Household Composition

Household Composition	Number	%
Couple only	347,300	25.3
Couple with child(ren)	428,000	31.2
One parent with child(ren)	119,300	8.7
Other one-family households	64,400	4.7
One person household	324,400	23.7
All other households	87,600	6.4
Total All Households	**1,371,000**	**100.0**

Table 12
Household Composition & number of Dependent Children

Household Composition Level Two	Number	%
Couple only	347,300	25.3
Couple with one dependent child	84,900	6.2
Couple with two dependent children	140,600	10.3
Couple with 3+ dependent child(ren)	84,400	6.2
All other couples with child(ren) only	118,100	8.6
One-parent with dependent child(ren)	81,100	5.9
All other one-parent with child(ren) only	38,200	2.8
Other one-family households	64,400	4.7
One-person household	324,400	23.7
All other households	87,600	6.4
Total All Households	**1,371,000**	**100.0**

Table 13
Tenure

Tenure of Dwelling	Number	%
Rent paid	390,000	28.4
Rental-free	57,700	4.2
Owned with mortgage	427,800	31.2
Owned without mortgage	495,500	36.1
All Tenures	**1,371,000**	**100.0**

Number of Persons in Household

Number of Persons in Household	Number	%
One person household	325,000	23.7
Two person household	449,800	32.8
Three person household	215,500	15.7
Four person household	228,600	16.7
Five or more person household	152,000	11.1
All Households	**1,371,000**	**100.0**

Table 15
Region

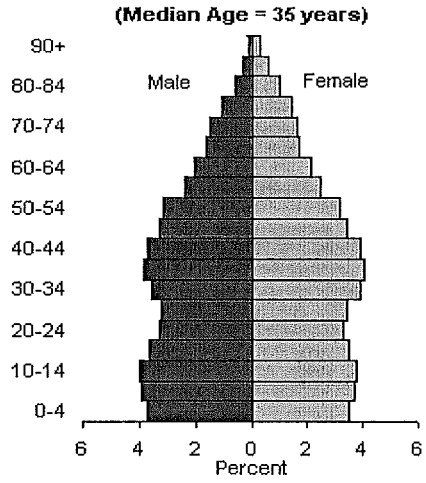
Region	Number	%
Northland, Waikato, Bay of Plenty, Hawkes Bay	345,000	25.2
Auckland	389,400	28.4
Taranaki, Manawatu/Wanganui, Wellington	285,700	20.8
All South Island	350,900	25.6
New Zealand	**1,371,000**	**100.0**

Note the National sampling error for this item is 19%

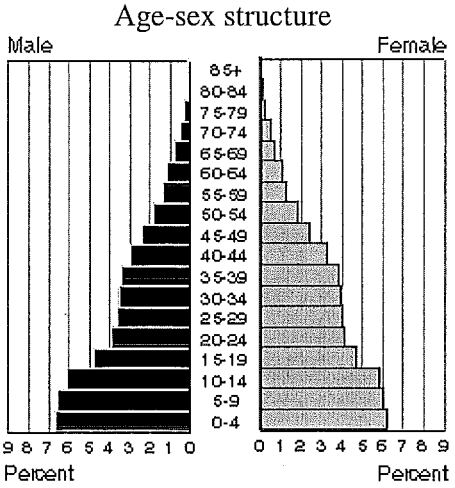
Source: Statistics New Zealand, Household Economic Survey 2001

Appendix 21: Age-Sex Structure -2001

(a) National population

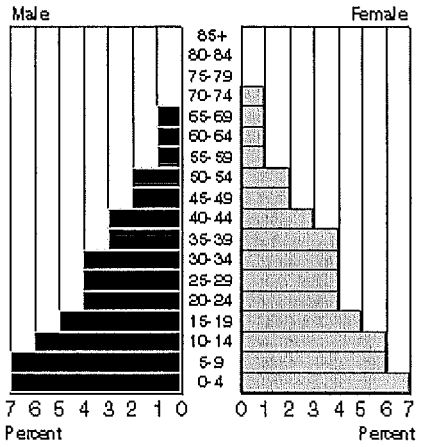


(b) Mäori ethnic population



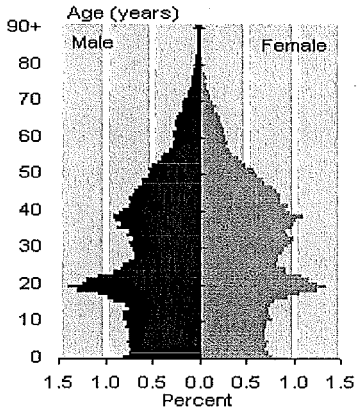
©: Age, Sex structure for Pacific People

Medium age 21



(d) **Sex age for Asian/others**

Medium age 29



Appendix 22: Target Market for Fijian Hardwood Species

Primary Markets

Heavy Users: (major users of tropical hardwoods) who needs to be differentiated from others in their lifestyle which include the use of wood in their household.

Male & Female Homemakers

Occupation (fulltime-employee)		
	Legislator, Administer &manager	85%
	Professional	82%
	Technical & Associated Professional	13%
Male		
	Legislator, Administer &manager	15%
	Professional	13%
	Technical & Associated Professional	11%
Female		
	Legislator, Administer &manager	14%
	Professional	20%
	Technical & Associated Professional	13%
Education	Higher degree	3%
	Bachelor degree	2%
Age:	35-44 years	78%
	45-54 years	84%
Income/annual (couple both working)	$50,000-70,000	12%
	$70,000-100,000	5%
	$100,000 plus	4%
Ethnicity	Pakeha,/Maori/Pacific people	20%/9%/4%
Family Size	1-2 (Couple only), Couple (1-2 dependent children)	
Region or Cities:	Tasman, Auckland, Wellington, Tauranga, Nelson, Christchurch	
City Size:	100,000-250,000; 250,000-500,000; 500,000-1,000,000; 1,000,000-over.	
Density:	Urban	
Religion:	Christians, (Anglican, Catholic, Presbyterian, Methodist, Pentecostal),others	
Social class:	Upper middles, lower uppers, upper uppers	
Lifestyle:	Actualizers, Fulfilled, Achievers	
Personalities:	Compulsive, Gregarious, ambitious,	
Benefits:	Quality, service, economy, convenience, speed	
User status:	Potential user, first time user, regular user	
Type of Customer:	Merchants, Upper Income Families, DIY, Owners of New Homes, Retailer	
Usage rate:	Medium user, heavy user	
Loyalty status:	Strong, absolute	
Readiness stage:	Aware, informed	
Attitude toward product:	Enthusiastic, positive	

23 (a) Dakua salusalu mouldings design display

Dakua salusalu on display for final customers in one of the major distributing centre in New Zealand.

Moulding design of .65 metre length of Sap Rimu which could be substituted by Dakua salusalu and Yaka. A product suitable for Fiji hardwoods which could utilize short lengths lumber from the mill or stumpage which are left in the bush to rot and wasted.

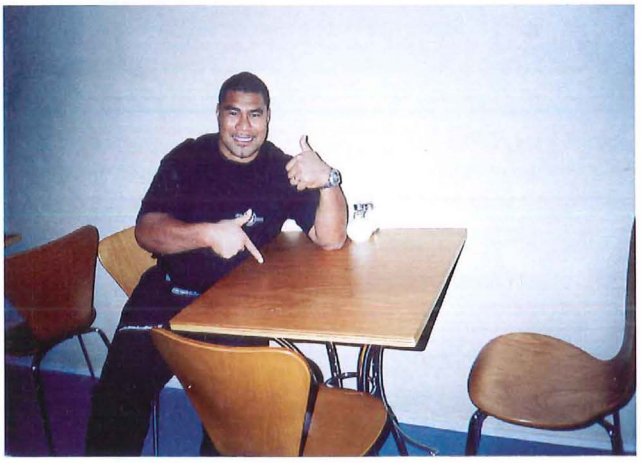
23(b) Damanu trophies stands

Damanu has been the used as trophy stands a sold at premium price both in the local and international markets. Such product utilized most of the short length Damanu which are left in the timber to rot or used as firewood.

23 (c) Dakua salusalu chairs

Dakua salusalu and Yaka are the two common species used for chairs, tables, bed, etc. Dakua makadre also suitable for manufacture these products.

23(d) Kaudamu table top and chairs



Kaudamu has started to be well received in the New Zealand market both timber and plywood and finding markets on joinery and furniture as shown on the picture. This famous rugby player loves the Kaudamu colour and could not believe how beautiful the tropical hardwood species is.

Appendix 24: Kauvula Picture Frames

Kauvula is the major species for picture frames and produced some of the best products even which are marketed locally and internationally. Some of these products are sold back to Fiji which could be manufactured in Fiji and sold to New Zealand.

Appendix 25: Packaging of Dakua Salusalu

Today, timber products package and bar-coded allowing it to be easily excess to invoicing and also stock taking at the end of each month.

Appendix 26: FITB Incentive Package

THE INCENTIVES PACKAGE

The new Incentive Package has become effective from January 2001. The intention of the new package is to make incentives transparent, easily available, automatic and non-discretionary. The incentives package encompasses eight principles as follows:

- low tax rates;
- income taxed only once;
- low duty rate on production inputs, construction; and capital materials;
- accelerated depreciation allowance;
- investment allowances;
- loss carry forward;
- duty free input for exports;
- export income tax deductible.

INCOME TAX CONCESSIONS

New Income Tax Rates will henceforth be applicable to all industries at uniform level. There is no discretion vested with any one to accord concessions. Most concessions are subject to eligibility and will automatically be available upon submission of returns as required by Inland Revenue. In some cases the Minister has the powers to approve certain concession, and these include:

- certain types of withholding taxes;
- exemptions from income tax for mining, film making etc.

Income Tax Rates

Income Tax on corporate profits are payable as follows:

1. financial year ending in 2001 - 34%
2. financial year ending in 2002 - 32%
3. financial year ending in 2003 - 30%

Withholding Tax on Dividends

No withholding tax is payable on dividends provided these are distributed to the shareholders after a company's profits are fully taxed at corporate level.

Tax Deduction on Export Income

New enterprises involved in exports are allowed deductions from total income as follows:

Year of Assessment	Pecentage of Export
2001 and 2002	100%
2003 and 2004	75%
2005 and 2006	50%
2007 and 2008	25%
2009 and every year thereafter	0%

Investment Allowance

An enterprise/tax payer may claim as a deduction investment allowance of 40% on the purchase of capital assets of not less than $50,000. The capital assets will not include land, buildings, passenger motor vehicle or trading stock.

Such investment allowance can be claimed within 2001 and 2005 if the expenditures have been incurred during this period (both years inclusive).

Activities eligible for claiming investment allowance are:

1. **Agricultural, Forestry and Marine Resources** business where substantial transformation of the natural resources is carried out. The natural resources means unprocessed or raw natural produce, including timber, wholly derived in or from Fiji.

Substantial transformation means the process applied to the natural resources which result in a product having a different classification under the Harmonised System (HS) codes from that of the raw materials. The substantial transformation does not include:

- repackaging and bottling;
- logging of timber.

2. **A Rural Manufacturing Business** carried out on a location not less than 25 km from the General Post Office (GPO) in Suva, Lautoka, Nadi, Nausori or Navua. Manufacturing means any activity included under the major Division 3 of the Fiji Standard Inudstrial Classification (FSIC) codes.

3. **Information Technology Business** means business providing services specifically based on utilising information technology, and delivered by making use of open networks and telecommunications specifically based on utilising information technology, and delivered by making use of open networks and telecommunications, including the following:

Call centres; ticketing, ordering and reservation service; database records and list management; data entry and processing; website development and management; software programming and design; tele-medicine; internet service provision;

but excluding:

- the retailing or wholesaling of information technology products; and
- the sale, care, repair or service of any item:.

Value Added Tax

Value Added Tax (VAT) at a rate of 10 per cent to replace customs duty, excise duty and turnover taxes are payable. The 10 per cent VAT paid upfront is claimable from the Inland Revenue Unit of the Fiji Revenue and Customs Authority.

Generous Depreciation Allowance

To simplify and enhance the system of depreciable assets, the following rules have been introduced for assets acquired after January 1, 1998:

- there are seven depreciation rates for assets acquired after January 1, 1998, as listed below.
- The effective life of the asset is used to determine the relevant depreciation rate. The Commissioner of Inland Revenue determines the effective life of the asset.
- A 20 per cent loading will apply to the broadband rate. This allows for accelerated write-off of assets.

INCENTIVE PACKAGE CONTD.

income tax (except for withholding tax) on any income derived from the production activity.

• An approved individual who derives income from work in audio-visual production including fees, wages, royalties, profits, etc; and any income earned from sports performances including prize money, performance fees and endorsements is exempt from tax.

OTHER ADVANTAGES

1. Double Taxation Agreement

As additional inducement, Fiji has negotiated a double taxation agreement with New Zealand, Australia, Japan and United Kingdom under which exemptions or tax concessions granted by the Fiji government are not negated by an imposition of tax in the country of residence of the investor. The contracting State(s) under the agreement would deem that tax has been paid and accordingly grant relief to the investor in respect of income flowing to him.

2. Freedom to Manage

Investors have full authority to manage their own business and may employ foreign managerial and technical personnel where suitably qualified local employees are not available. It is required, however, that a programme to train and upgrade local personnel be undertaken. Certain key expatriates, essential to safeguard the investors interests, are permitted on a continuing basis.

3. Special Requirements

Foreign investment is welcomed when it introduces capital, management and technology and makes a contribution to Fiji's economic and social development. Joint ventures are encouraged in order to stimulate local entrepreneurship.

• The real requirements for foreign investment are that they:

Introduce adequate funds for their projects;

• Pay a fair price for assets acquired locally;

• Are generally expected to finance fixed assets from overseas sources.

Loans to non-resident entities are available, subject to exchange control approval by the Reserve Bank of Fiji.

Fiji is now poised for further growth. The time is now opportune for investors who are looking for a new location for their business to consider Fiji, particularly for export oriented projects. Please refer to the various sections for investment opportunities.

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